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ABSTRACT

This document contains 1 conference paper abstract and 10 papers from a conference on business education and information systems research. The document begins with the abstract of the paper "The Relationships among Work-Based Learning Initiatives, Anticipated Benefits, and Stakeholder Involvement" (Bridget N. O'Connor). The remainder of the document consists of the full texts of the following papers: "Program Area Concerns of Beginning and Experienced Marketing Education Teachers" (Allen D. Truell); "Field Professionals' Demonstrated and Perceived Problems in Correspondence Writing" (Ellis A. Hayes); "Assessing the Effectiveness of Distance Education Versus Traditional On-Campus Education" (Shelia Yvonne Tucker); "Self-Directed Learning Resource Usage among Office Employees" (James E. Bartlett, II, Chadwick Higgins, and Courteney Kovacs); "Students' Perceptions of Business Education as a Career" (Charlene W. Sox); "Business Education Students' Worldview: Implications for Program Development in Regional Universities" (Mary H. Jackson and E. Ruth Carroll); "A Comparison of Secondary Business Education Students' Learning Styles with Their Teachers' Instructional Styles" (Wanda L. Stitt-Gohdes, Tena B. Crews, and Melinda McCannon); "Guided Practice vs. Independent Practice in Teaching Electronic Databases" (Michael L. McDonald and Rebecca Carpenter); "Brain Hemispheric Consensus and the Quality of Investment Decisions" (Michael Boyd); and "Incorporating the 4MAT Learning Style Model in Marketing Education" (Christy K. Anderson, Malinda Hendricks Green, Frank Nelson). (Most papers contain references.) (MN)

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2000 Proceedings

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New Orleans, Louisiana
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Creating Knowledge in the 21st Century:
Insights from Multiple Perspectives

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THE RELATIONSHIPS AMONG WORK-BASED LEARNING INITIATIVES, ANTICIPATED BENEFITS, AND STAKEHOLDER INVOLVEMENT

Bridget N. O'Connor, Ph.D., New York University

Abstract

Those districts that are able to articulate the benefits of work-based learning initiatives and have developed ways to include the voices of all stakeholders should be in the best position to succeed. A total of 210 members (37%) of the New Jersey Association of School Administrators reported that "Real problem solving in an academic classroom" and "career education" were the most frequently cited initiatives. No one benefit appeared as a major driver. Teachers and administrators were the most involved of any stakeholder group, and parents were the least involved. The advisory council was the most used means for ensuring participation, and parent-teacher associations the least. An overall lack of planning for new initiatives was reported and may be attributed to school administrators not having been involved in state-wide planning and parents (mis)understanding that WBL is not for the college-bound student. Recommendations for practice and future research are included.

Program Area Concerns of Beginning and Experienced Marketing Education Teachers

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Program Area Concerns of Beginning and Experienced Marketing Education Teachers

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Abstract

The purpose of this study was to compare the program area standard concerns of beginning and experienced marketing teachers across nine categories--resource standards, curriculum, instruction, vocational student organization, instructional climate, guidance, professional development, program administration, and facilities. The results of the study indicate that while there are statistically significant differences between beginning and experienced marketing teachers, there may be little practical difference in their program area standard concerns. Further, both the beginning and experienced marketing teachers in this study reported relatively low levels of concern on most program area standard items.

Introduction

The notion that teachers develop overtime and that their concerns and abilities change as they develop has been well documented (Reeves & Kazelskis, 1985). Several investigators (e.g., Echternacht, 1981; Korevaar, Bergen, & Theo, 1992) have examined the differences in the development overtime of teachers in a variety job roles. The instructional problems of first-year and experienced business education teachers was explored by Echternacht (1981). Korevaar et al. (1992) reviewed the relationship between teacher experience and their perceptions of and reactions to problematic classroom situations. Specific to research including marketing teachers, Alexander, Ober, Davis, and Underwood (1997) and Underwood and Davis (1987) investigated the teaching concerns of prospective and experienced business and marketing teachers. The omnipresent theme that runs through all of these studies is that prospective, beginning, and experienced teachers all share common perceptions with some facets of their jobs and marked differences with other job components. For a host of reasons, the interest in the concerns and abilities of teachers as they develop overtime is not likely to decrease. For example, as noted by Bendixen-Noe and Redick (1995), "With the increasing push for accountability in our educational system, the professional development of teachers will remain a current focus in the improvement of education." (p. 52) Further, as noted by Discoll and Shirey (1985), ". . . teacher educators have begun viewing the entire professional continuum as a paradigm for research and development." (p. 2) Lastly, as expressed by Paisley (1990) ". . . special attention must be given to the process of growth and continued development for teachers." (p. 20)

A myriad of researchers have examined teacher challenges, concerns, and problems in general (e.g., Arroyo & Sugawara, 1993; Linnell, 1994; Matthews, 1993) while others who have focused their work to included marketing teachers (e.g., Alexander, Davis, & Underwood, 1997; Alexander, Ober et al. 1997; Heath & Price, 1987; Price, 1988; Underwood & Davis, 1985; Underwood & Davis, 1987; Wray, 1988; Wray & Davis, 1990). The perceived concerns of secondary business and distributive education teachers in Indiana was explored by Underwood and Davis (1985). The problems experienced by first-year marketing teachers in Virginia were investigated by Heath and Price (1987). A study of the concerns of prospective and experienced business and marketing teachers undertaken by Underwood and Davis (1987). Workplace concerns of Illinois marketing teachers were explored by Wray (1988). The factors impeding teacher involvement in adult marketing education was studied by Price (1988). A comparative study of the perceived challenges facing marketing teachers in Illinois and Indiana was conducted by Wray and Davis (1990). The teaching difficulties of business and marketing educators at the secondary level was conducted by Alexander et al. (1997). In yet another study, the concerns of prospective and experienced secondary business and marketing teachers were examined by Alexander, Ober et al. (1997). Lastly, Heath-Camp, Camp, and Adams-Casmus (1990) conducted

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a qualitative study in which the challenges and problems of two marketing teachers were examined.

For the purpose of this study, a beginning marketing teacher was define as a teacher with four or fewer years of teaching experience in a high school marketing education program. While there have been assorted studies assessing teacher concerns, this investigation is significant in that it is the first to examine specific program area standard concerns of beginning and experienced marketing teachers. Results of this study are expected to provide state department of education personnel and teacher educators with insight into the program area standard concerns of marketing teachers. This insight will provide state department of education personnel and teacher educators with a road map for planning and delivering both preservice and inservice teacher education relative to program standards.

Purpose

The purpose of this study was (a) to determine the most serious program area standard items of concern to beginning and experienced marketing teachers and (b) to determine the relative difference between beginning and experienced marketing teachers in relation to the 92 program area standard items of concern. Specifically, answers to the following questions were sought:

1. What are the five most serious program area standard concerns to beginning and experienced marketing teachers?

2. Are there differences in program area standard concerns between beginning and experienced marketing teachers on each of the 92 individual items?

Method

This section describes the procedures used during the study. Discussed are the participants, instrument, and data analysis.

Participants

Participants consisted of all marketing teachers attending the four regional inservice meetings held throughout Missouri during the 1998-1999 academic year. A program area standard teacher concerns survey was distributed by the researcher to collect data. Identifiers were not included on the instrument so all participant responses were completely anonymous. A total of 141 surveys were distributed and collected during these regional meetings. Though not a probability sample, these 141 respondents represented 70.1% of the 201 marketing teachers in Missouri during the 1998-1999 academic year. Of the 141 participants, 60 (42.6%) were beginning teachers and 80 (56.7%) were experienced teachers. One (0.7%) teacher did not respond to the question regarding years of teaching experience in marketing education and was excluded from the data analysis.

Instrument

Program area concerns of marketing teacher were appraised through the use of a program area standard teacher concerns survey developed by the researcher. The instrument was designed to parallel the *Program Standards for Marketing and Cooperative Education* established by the Marketing and Cooperative Program Area in the Missouri Division of Vocational and Adult Education as a program assessment guide. The instrument is composed of 92 questions grouped into nine program area standard categories: resource standards, curriculum, instruction, vocational student organization, instructional climate, guidance, professional development, program administration, and facilities. These 92 items were arranged to form a Likert-type scale with five scoring categories. Participant response options were (1) not difficult, (2) slightly difficult, (3) moderately difficult, (4) significantly difficult, and (5) extremely difficult. To assess instrument clarity and validity, it was pilot tested with a group of vocational teachers similar to those participating in the study. Suggestions for improvement by members of the pilot group were incorporated into the final instrument. Participants were also asked to supply information relative to their years of teaching experience in marketing education.

Data Analysis

A variety of analytical techniques were used to answer the two research questions. To answer question one and determine the five most serious program area standard concerns of beginning and experienced marketing teachers, means were used. To answer question two and determine if significant differences existed between beginning and experienced marketing teachers on the 92 program area standard concern items, t-tests were used. Alpha for all tests of significance was set at .05.

Findings

This section provides a comparison of the program area standard concerns of beginning and experienced marketing teachers. First, the five most serious program area concerns of beginning and experienced marketing teachers are presented.

Five Most Serious Program Area Standard Concerns

Question one examined the five most serious concerns of beginning and experienced marketing teachers. As presented in Table 1, among the top five concerns of beginning marketing teachers were (1) implementing articulation agreements with postsecondary institutions, (2) developing an instructional management system for reporting student mastery of curriculum content, (3) preparing a written program of activities for the advisory committee, (4) maintaining appropriate advisory committee membership for the program, and (5) preparing a written marketing plan for informing various groups about the program. Included in the top five concerns of experienced marketing teachers were (1) developing a long-range plan for program improvement based on annual program evaluation, (2) implementing articulation agreements with postsecondary institutions, (3) preparing a written program of activities for the advisory committee, (4) maintaining appropriate advisory committee membership for the program, and (5) preparing a written marketing plan for informing various groups about the program. Interestingly, four of the top five program area concerns were the same for both beginning and experienced marketing teachers relative to program standards.

Table 1
Most Serious Program Area Standard Concerns of Beginning and Experienced Marketing Teachers

Concern	Mean[a]
Beginning marketing teachers	
1. Implementing articulation agreements with postsecondary institutions and/or other appropriate community resources	2.95
2. Preparing a written marketing plan to provide guidance for informing various groups about the program	2.72
3. Developing an instructional management system for reporting student and class mastery of curriculum competencies	2.70
4. Maintaining appropriate advisory committee membership for the program area	2.69
5. Preparing a written program of activities for the advisory committee	2.63

Experienced marketing teachers	
1. Implementing articulation agreements with postsecondary institutions and/or other appropriate community resources	3.18
2. Preparing a written program of activities for the advisory committee	3.10
3. Preparing a written marketing plan to provide guidance for informing various groups about the program	3.09
4. Maintaining appropriate advisory committee membership for the program area	3.03
5. Developing a long-range plan for program improvement based on annual program evaluation	2.95

[a] 1 = not difficult; 5 = extremely difficult

Differences by Individual Program Area Standard Concerns

The second question investigated if concern differences existed between beginning and experienced marketing teachers on the 92 items composing the program area standards survey. The results of the data analysis are presented in Table 2. Of the 92 program area standard items of concern, significant differences between beginning and experienced market teachers were found on 8 (8.7%) of the items. Further, of these 92 program area items, only 4 (4.3%) had means higher than 3.0, or a moderate level of concern for experienced marketing teachers. By comparison, none of the 92 program area items for beginning marketing teachers were reported over 3.0, or a moderate level of concern.

Program area standard one--resource standards. In this category, both beginning and experienced marketing teachers reported the most concern with keeping the number of students enrolled in the cooperative education component of the program to 15 for each period of teacher supervision time with means of 2.48 and 2.86, respectively. Of the eight items in this category, two were reported to be significantly different between beginning and experienced marketing teachers--keeping a current teaching certificate on file with the district office and basing course offerings on enrollment trends, student interest surveys, and employment needs. In this category, both beginning and experienced marketing teachers reported not difficult to slightly difficult levels of concern on most items. Specifically, both groups of marketing teachers reported means of < 2.0 on six of the eight resource standard items.

Program area standard two--curriculum. In this category, both beginning and experienced marketing teachers reported the most concern with implementing articulation agreements with postsecondary institutions and/or other appropriate community resources with means of 2.95 and 3.18, respectively. Of the 12 items in this category, none were reported to be significantly different between beginning and experienced marketing teachers. In this category, both beginning and experienced marketing teachers reported slightly difficult to moderate levels of concern on most items. Specifically, both groups of marketing teachers reported means between 2.0 and 3.5 on 8 of the 12 curriculum items.

Program area standard three--instruction. In this category, both beginning and experienced marketing teachers reported the most concern with developing an instructional management system for reporting student and class mastery of curriculum competencies with means of 2.70 and 2.83, respectively. Of the 24 items in this category, five were reported to be significantly different between beginning and experienced marketing teachers--providing frequent supervision at the training station, keeping on file a written training agreement between the school and the training sponsor for each student, providing both in-class instruction and supervision on the job, receiving adequate supervision time based on the number of students participating in the cooperative education component of the program, and evaluating the general workplace readiness of students participating in cooperative education and their occupationally specific skills on the job. In this category, both beginning and experienced marketing teachers reported a slightly difficult to moderately difficult level of concern on most items. Specifically, beginning marketing teachers reported means between 2.0 and 3.0 on 18 of the 24 instruction items. In comparison, experienced marketing teachers reported means between 2.0 and 3.0 on 21 of the 24 items.

Program area standard four--vocational student organization. In this category, beginning marketing teachers reported the most concern with developing a program of vocational student organization activities that directly support the achievement of curriculum competencies with a mean of 2.18. Experienced marketing teachers reported the most concern with developing a vocational student organization program of activities based on program goals, objectives, and curriculum of the program with a mean of 2.43. Of the seven items in this category, none were reported to be significantly different between beginning and experienced marketing teachers. In this category, both beginning and experienced marketing teachers reported a slightly difficult level of concern on most items. Specifically, means for both groups of marketing teachers were between 1.5 and 2.5 for all vocational student organization items.

Program area standard five--instructional climate. In this category, both beginning and experienced marketing teachers reported the most concern with maintaining high attendance by students with means of 2.62 and 2.64, respectively. Of the seven items in this category, one was reported to be significantly different between beginning and experienced marketing teachers--displaying student work in the classroom and building. In this category, both beginning and experienced marketing teachers reported a slightly difficult level of concern on most items. Specifically, both groups of marketing teachers reported means between 1.5 and 2.5 on six of the seven instructional climate items.

Program area standard six--guidance. In this category, beginning marketing teachers reported the most concern with obtaining assistance from guidance staff and others within the school for identifying and recruiting students with a mean of 2.48. Experienced marketing teachers reported the most concern with planning recruitment efforts to focus on the needs, interests, and career objectives of the students in response to the needs of the business community with a mean of 2.71. Of the eight items in this category, none were reported to be significantly different between beginning and experienced marketing teachers. In this category, both beginning and experienced marketing teachers reported slightly difficult to moderately difficult levels of concern on all items. Specifically, both groups of marketing teachers reported means between 1.5 and 3.0 on all guidance items.

Program area standard seven--professional growth. In this category, beginning marketing teachers reported the most concern with securing time to participate in professional development activities with a mean of 2.18. Experienced marketing teachers reported the most concern with receiving training in the recognition of signs and symptoms of substance abuse and intervention strategies with a reported mean of 2.29. Of the five items in this category, none were reported to be significantly different between beginning and experienced marketing teachers. In this category, both beginning and experienced marketing teachers reported a slightly difficult level of concern on all items. Specifically, both groups of marketing teachers reported means between 1.5 and 2.5 on all professional growth items.

Program area standard eight--program administration. In this category, both beginning and experienced marketing teachers reported the most concern with preparing a written marketing plan to provide guidance for informing various groups about the program with means of 2.72 and 3.09, respectively. Of the 18 items in this category, two were reported to be significantly different between beginning and experienced marketing teachers--providing for periodic review of the policies by the administration, students, and teacher. In this category, both beginning and experienced marketing teachers reported slightly difficult to moderately difficult levels of concern on all items. Specifically, both groups of marketing teachers reported means between 1.5 and 3.5

on all program administration items.

Program area standard nine--facilities. In this category, both beginning and experienced marketing teachers reported the most concern with housing the program in appropriate facilities including a private office with a telephone with means of 2.46 and 2.20, respectively. Of the four items in this category, none were reported to be significantly different between beginning and experienced marketing teachers. In this category, both beginning and experienced marketing teachers reported a slightly difficult level of concern on all items. Specifically, both groups of marketing teachers reported means between 1.5 and 2.5 on all facilities management items.

Table 2
Differences Between Beginning and Experienced Marketing Teachers by Individual Program Area Standard Concern

	Mean			
Categories and Program Area Standard Concerns	Beg.	Exp.	df	t
Resource Standards				
Offering at least two course in the program	1.41	1.73	137	-1.53
Offering at least three units of credit	1.30	1.41	138	-0.77
Maintaining cooperative education internships as an optional course for student enrolled in the program	1.71	1.71	137	-0.00
Keeping a current teaching certificate on file with the district office	1.30	1.13	137	2.12*
Maintaining a file containing documentation for renewal of teaching certificate	1.45	1.46	138	-0.09
Basing course offerings on enrollment trends, student interest surveys, and employment needs	2.08	2.53	138	-2.21*
Maintaining a class size that does not exceed 30	1.60	1.69	138	-0.45
Keeping the number of students enrolled in the cooperative education component of the program to 15 for each period of teacher supervision time	2.48	2.86	131	-1.45
Curriculum				
Having the written curriculum formally adopted by the school board	1.71	1.74	135	-0.19
Preparing a rationale which relates the program goals to the district's mission and philosophy	1.67	1.65	138	0.12
Preparing a general content description of the content of the program	1.55	1.50	138	0.38
Preparing general goals for graduates of the program	1.73	1.79	138	-0.36
Cross referencing the knowledge (content), skills and competencies (process) students need to meet the goals established by the district and the Showme Standards	2.50	2.54	137	-0.20
Developing curriculum and instructional strategies which integrate academic and vocational competencies	2.42	2.33	138	0.43
Utilizing the approved curriculum guide in planning the instructional program and the delivery of education services	2.23	2.14	138	0.54

Systematically evaluating and revising the curriculum based on actual student needs and indicators of student mastery	2.53	2.68	138	-0.67
Implementing articulation agreements with postsecondary institutions and/or other appropriate community resources	2.95	3.18	138	-1.02
Reviewing the curriculum annually and revising as necessary to reflect changes occurring in industry, student needs, and instructional technology	2.64	2.78	137	-0.60
Using resources in the community to enrich the curriculum	2.35	2.13	138	1.35
Preparing the curriculum for each course/program with identified competencies organized as units of instruction, with appropriate assessment methods and resources	2.43	2.53	138	-0.44
Instruction				
Developing daily lesson plans from the approved curriculum guide	1.78	2.00	137	-1.23
Using non-biased practices and language during instruction	1.38	1.61	137	-1.66
Enrolling students in both the class and supervised employment simultaneously	1.67	1.59	137	0.49
Developing training stations appropriate for the occupational area of the program	2.27	2.42	136	-0.74
Providing frequent supervision at the training station	2.17	2.67	137	-2.71*
Screening and approving training stations	2.38	2.72	137	-1.70
Maintaining a written Instructional Management Plan between the school and the training sponsor for each student	2.02	2.38	137	-1.88
Keeping on file a written training agreement between the school and the training sponsor for each student	1.40	1.73	137	-2.31*
Providing both in-class instruction and supervision on the job	1.73	2.19	136	-2.74*
Securing extended employment based on the number of students participating in the cooperative education component of the program	2.08	2.18	136	-0.45
Receiving adequate supervision time based on the number of students participating in the cooperative education component of the program	2.13	2.72	137	-2.64*
Evaluating the general workplace readiness of students and their occupationally specific skills on the job	2.12	2.55	136	-2.61*
Gaining the support of counselors, administrators, and business community for the program	2.12	2.28	137	-0.83
Varying instructional strategies to address all learning styles	2.38	2.56	137	-0.98
Developing procedures to insure appropriate instruction, review, and reinforcement for individual students served by special/support programs	2.36	2.69	135	-1.70

Providing appropriate support services to students so they can succeed in the program	2.15	2.37	137	-1.21
Becoming knowledgeable about special/support programs offered by the school district	2.33	2.38	137	-0.26
Sharing program and/or course objectives, assessment methods and performance expectations with students and parents/guardians prior to instruction	2.23	2.59	138	-1.81
Developing an instructional management system for reporting student and class mastery of curriculum competencies	2.70	2.83	138	-0.59
Utilizing resources from the community to enrich the curriculum	2.20	2.22	137	-0.09
Developing procedures for updating and replacing instructional materials	2.32	2.23	136	0.50
Utilizing instructional technology available to teachers	2.08	2.21	138	-0.75
Keeping equipment in good repair and proper working order	1.93	2.25	138	-1.68
Establishing procedures for reporting and requesting repairs, and seeing to it that repairs are made promptly	2.08	2.28	137	-0.97
Vocational Student Organization				
Including the vocational student organization as a integral part of the program	1.78	1.71	135	0.43
Supervising the vocational student organization	1.80	1.82	135	-0.11
Obtaining administrative support for the vocational student organization	1.60	1.73	135	-0.75
Securing resources for student participation in the vocational student organization	1.90	2.17	135	-1.35
Developing a vocational student organization program of activities based on program goals, objectives, and curriculum of the program	2.13	2.43	135	-1.49
Conducting a series of vocational student organization activities throughout the school year	2.05	2.09	135	-0.23
Developing a program of vocational student organization activities that directly support the achievement of curriculum competencies	2.18	2.40	135	-1.06
Instructional Climate				
Holding high expectations for teaching and learning	1.78	1.84	138	-0.36
Maintaining high attendance by students	2.62	2.64	138	-0.11
Accepting responsibility for reducing student failure and promoting student success	1.93	2.14	136	-1.40
Providing each student the opportunity to succeed in school	1.60	1.76	138	-1.19
Displaying student work in the classroom and building	1.67	2.04	137	-2.32*
Maintaining an orderly classroom where standards of conduct are understood by everyone and enforced	1.85	1.91	138	-0.40

Organizing the classroom for optimum use of instructional time, equipment, and resources	1.85	1.88	138	-0.17
Guidance				
Making educational/vocational information readily available to students	1.93	2.06	137	-0.80
Securing the support of counseling staff to provide classroom instruction on career development	2.25	2.53	138	-1.23
Planning recruitment efforts to focus on the needs, interests, and career objectives of the students in response to the needs of the business community	2.37	2.71	138	-1.79
Developing a recruitment plan which results in students representative of the total school population enrolling in the program	2.46	2.64	137	-0.89
Enrolling students in the program who have a career interest in the area and who can benefit from the program	2.47	2.65	138	-0.86
Maintaining a program enrollment that is representative of the total school population with respect to race, gender, and disability	1.97	2.09	135	-0.78
Obtaining assistance from guidance staff and others within the school for identifying and recruiting students	2.48	2.68	138	-0.85
Assuring equal access to the program and it activities	1.73	1.85	136	-0.76
Professional Growth				
Preparing and following an annual plan for professional growth and development	2.02	2.01	138	0.03
Participating in professional and technical activities to update knowledge and skills	1.77	1.83	138	-0.37
Securing time to participate in professional development activities	2.18	2.25	138	-0.35
Receiving training in the recognition of signs and symptoms of substance abuse and intervention strategies	1.97	2.29	138	-1.89
Maintaining membership and participating in professional organizations	1.83	1.70	138	0.81
Program Administration				
Preparing a statement of mission and goals which includes the purpose and goals established for the program area	1.87	1.99	137	-0.77
Providing for the periodic review and appropriate modification of the program goals to reflect current conditions with input from students, parents, and community representatives	2.37	2.43	137	-0.35
Maintaining a mission and goals that reflect the needs of all students, the labor market, and community	2.25	2.44	138	-1.00

Establishing performance measures and standards for every course offered by the program	2.24	2.55	137	-1.50
Annually evaluating the program based on performance standards and measures	2.53	2.78	137	-1.25
Developing a long-range plan for program improvement based on annual program evaluation	2.66	2.95	137	-1.39
Sharing written program policies with students and parents/guardians	2.07	2.40	138	-1.75
Providing for periodic review of the policies by the administration, students, and teacher	2.25	2.61	138	-2.02*
Maintaining compliance with policies and standards established by state and federal education agencies	1.93	2.00	138	-0.45
Providing input for determining program budget	2.48	2.23	136	1.15
Preparing an accounting system for the complete and systematic record of all funds received and expended while utilizing all appropriates school accounts	2.20	2.11	137	0.46
Maintaining an inventory of equipment purchased with state and/or federal funds	1.80	1.85	138	-0.31
Establishing and maintaining an active advisory committee	2.50	2.89	138	-1.76
Preparing a written program of activities for the advisory committee	2.63	3.10	137	-2.17*
Maintaining appropriate advisory committee membership for the program area	2.69	3.03	137	-1.47
Preparing a written marketing plan to provide guidance for informing various groups about the program	2.72	3.09	138	-1.90
Maintaining open communication with local media and school district public information staff	2.31	2.65	137	-1.73
Participating in local community organizations and activities	2.35	2.63	138	-1.39
Facilities Management				
Housing the program in appropriate facilities including a private office with telephone	2.46	2.20	137	1.00
Maintaining clean, safe, and orderly facilities	1.66	1.68	136	-0.13
Maintaining safety and emergency devices	1.52	1.49	136	0.22
Staying current in the safe and proper use of all safety and emergency devices	1.53	1.65	137	-0.82

[a] 1 = not difficult; 5 = extremely difficult
*significant at alpha = .05

Conclusions and Discussion

As is the case with most research efforts, caution should be used when translating the results of this study. For example, participants in this study were not a probability sample and thus may not necessarily be representative of all marketing teachers in Missouri. However, the 141 individuals in this study did represent 70.1% of the 201 marketing teachers in Missouri during the year the study was conducted. On a positive note, data were collected anonymously by the researcher. This anonymity during the data collection process may have resulted in more honest participant responses given that most respondents would not have wanted to have been identifiable to the researcher in this study if individuals were having major problems. Both the high rate of participation and the anonymity of the responses enhance the credibility of this study's findings. The findings of this study relative to the program area standard concerns of beginning and experienced marketing teachers support the following conclusions.

First, as supported by data in Table 1 and Table 2, neither beginning nor experienced marketing teachers indicate major program area standard concerns. For instance, a review of Table 1 and Table 2 reveals no program standard items with means in either the significantly difficult or extremely difficulty categories. More specifically, 62 of the program area standard item means for both beginning and experienced marketing teachers were < 2.5, or a slightly difficult level of concern. These 62 item means of < 2.5 represent about two-thirds (67.4%) of the 92 items on the program area standards survey.

Second, beginning and experienced marketing teachers tend not to differ in their levels of concern. While statistically significant differences between beginning and experienced marketing teachers were found on 10 (9.2%) of the 92 items, in terms of all program area standards there was little practical difference. A review of the means in Table 2 revealed that experienced marketing teachers reported higher mean levels of concern on 78 (84.8%) of the 92 items on the program standards instrument.

Third, as supported by data in Table 1, both beginning and experienced marketing teachers have similar concerns. A review of the five most serious concerns of the two groups of marketing teachers revealed that four items appeared on the lists of both groups. Among the most significant program area standard concerns of both beginning and experienced marketing teachers are implementing articulation agreements with postsecondary institutions and/or other appropriate community resources, preparing a written program of activities for the advisory committee, preparing a written marketing plan to provide guidance for informing various groups about the program, and maintaining appropriate advisory committee membership for the program area. Interestingly, as presented in Table 2, both beginning and experienced marketing teachers reported the most concern with the same item in six of the nine program area standard categories. Specifically, items of most concern in each program area standard area category were as follow: resource standards--keeping the number of students enrolled in the cooperative education component of the program to 15 for each period of teacher supervision time; curriculum, implementing articulation agreements with postsecondary institutions and/or other appropriate community resources; instruction, developing an instructional management system for reporting student and class mastery of curriculum competencies; instructional climate, maintaining high attendance by students; program administration, preparing a written marketing plan to provide guidance for informing various groups about the program; and facilities management, housing the program in appropriate facilities including a private office with telephone.

Implications

Finding that there are significant differences between beginning and experienced marketing teachers may be of little importance due to the relatively low level of concern expressed on most items of the program area standard teacher concerns survey. While generally low levels of concern were reported for most items on the program area standard teacher concerns survey, it may be necessary for state department of education personnel and marketing teacher educators to address the items of most concern to beginning and experienced marketing teacher through both preservice and/or inservice teacher education. For example, among the top concerns of both beginning and experienced marketing teachers were preparing a written program of activities for the advisory committee and maintaining appropriate advisory committee membership for the program. Perhaps a detailed unit on preparing an advisory committee program of work and advisory committee member selection conducted as part of a preservice methods course would be useful in helping marketing teachers better manage these program components. Further, implementing articulation agreements with postsecondary institutions was among the top concerns of both beginning and experienced marketing teachers in this study. Including a section on articulation agreements maybe appropriate for a teacher inservice activity. Regardless of the program area standard concern or strategy, state department of education personnel and marketing teacher educators need to address the program area standards of most concern as identified by teachers.

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FIELD PROFESSIONALS' DEMONSTRATED AND PERCEIVED PROBLEMS IN CORRESPONDENCE WRITING

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FIELD PROFESSIONALS' DEMONSTRATED AND PERCEIVED PROBLEMS IN CORRESPONDENCE WRITING

Ellis A. Hayes

Abstract

Using Q-methodology, the study obtained perceived difficulties of business correspondence composition from fifty-six individuals representing eight different professional groups. The participants proceeded to draft direct, indirect, and persuasive messages in response to hypothetical scenarios they might encounter on the job. Findings revealed that group rankings according to deficiency magnitude correlated strongly (Pearson + .91) to group rankings according to divergence between perceived and assessed composition writing problems. Hence, better awareness of legitimate areas for writing improvement is indicative of more effective correspondence production. Cognition should be related to performance analysis as an instructional tool in business writing.

FIELD PROFESSIONALS' DEMONSTRATED AND PERCEIVED PROBLEMS IN CORRESPONDENCE WRITING

Need and Problem

The would-be or future manager presents a challenge to business educators, who are faced with identifying and addressing particular workplace communication needs while attending to basic and generic writing problems. By obtaining such information from a variety of professional groups, business educators could develop a greater sense of how business writing instruction may be improved.

Thousands of employees must write well in order to succeed in their business careers (Aldrich, 1982). Among college graduates alone, highly skilled writers earn, on average, more than triple that of poor writers (Fisher, 1998). Recently promoted business executives selected business communication as the most important course preparation for business leadership (Fine, 1983). The demands of workplace writing for students entering professions—in which actual needs must be addressed—may reveal a disconnect between the "real reader...a concrete reality" and the "implied reader...an abstraction to be shaped within the text" (Thralls, Blyler, & Ewald, 1988, p. 47).

The following questions, relating to composition aspects of business correspondence confronting 56 writers in eight professional categories, were investigated in the present study:

1. Which composition aspects of correspondence writing do business professionals perceive as difficult?
2. Which composition deficiencies exist in the correspondence drafts of business professionals?
3. How do perceived difficulties of the writers compare with assessed deficiencies of their correspondence drafts?
4. What professional group divergences exist in both perceived difficulties and assessed deficiencies of messages?

Background

In general, writing perception studies indicate a perceived lack of preparedness for workplace correspondence writing, with respect to attitudes as well as skills and knowledge. Specifically, they raise the issues of curricular inclusion (Feinberg & Pritzker, 1985); difficulties, formalities, word choice, and situational adjustments in writing (Lariviere, 1989); student-based insight as to how academic programs are addressing business writing (Wedell & Allerheiligan, 1991); components believed integral for business achievement (Bennett & Olney, 1986; Quible, 1991); correspondence needs in business as perceived by student, faculty, and business groups (Hiemstra, Schmidt, & Madison, 1990; Leonard & Gilsdorf, 1990); and involvement in writing tasks at various levels.

Writer perceptions of difficulty regarding messages are largely missing from correspondence analysis studies. The research mainly compares messages with standards that are either published, characteristic of various professions, or otherwise expressed (Winter, 1995; Barbour, 1992; Pearce & Barker, 1991; Salerno, 1988; Aalberts & Krajewski, 1987). Joint perception/assessment studies use disparate instructional techniques rather than concurrent participants as the perceptual focus (Varner & Grogg, 1988; Johnson & Sterkel, 1984; Kilpatrick, 1984), despite the recommendation of Storms (1983) to combine participant surveying and writing sample assessment as a tool to better design and deliver business communication instruction. Benefits of redirecting writers' concerns regarding effectiveness toward legitimately revealed needs for improvement form the core rationale of this study.

Procedures

Fifty-six participants—seven each in Accounting, Distribution, Finance, Human Resources, Insurance, Information Systems, Manufacturing, and Promotion—drafted correspondence in response to simulated problems. Assessments of participants' written messages were compared with a survey indicating their concerns toward composing business correspondence. Information is gained in isolating tendencies according to professional category and in relation to other groups as well as overall findings. Implications of tailoring business writing instruction according to probable group needs and/or attitudes toward difficulties are discussed.

Survey Instrument

Each participant completed a Q-sort designed to indicate perceived difficulty of composition aspects of business correspondence writing. The Q-sort consisted of 40 cards, each representing a distinct composition aspect and appearing in one or more previous studies of business writing (Pearce & Barker, 1991; Leonard & Gilsdorf, 1990; Goodin & Swerdlow, 1987; Benett & Olney, 1986; Feinberg & Pritzker, 1985; Lemley, 1983; Srorms, 1983; Adkins, 1982; Aldrich, 1982). Nine sorting bins were provided, with each participant responsible for distributing the cards until a prescribed number of aspects (representing a quasinormal distribution) was placed in each bin. Besides number of cards allowed, the only distinction among sorting bins was their relative positioning, with the two bipolar bins labeled "least difficult" and "most difficult" respectively. Each aspect's perceived difficulty was thus considered in relation to the others.

Writing Samples

Participants proceeded to complete drafts for three messages. To enhance uniformity of assessment, all writers prepared the drafts on the basis of researcher-provided simulations. With variations sufficient to reflect uniqueness of the eight professional categories, the simulations called for the following message types and core situations:

1. A direct style (good or neutral news) memorandum to a staff officer describing functions of the writer's work center in preparation for a tour of the business by a prospective international client.
2. An indirect style (unfavorable news) letter declining a customer's request for a product or service adjustment on the basis of circumstances not covered or stipulated in the transactional agreement.
3. A persuasive letter, as liaison for a corporate initiative to encourage professional development, asking co-workers to register for continuing education programs.

Analysis of Data

Fourteen post-secondary instructors of business communication each independently screened composition quality aspects of 36 composed messages. The instructors were directed to carefully screen each message, and to note—via a checklist of the 40 composition aspects used in the Q-sort—any aspects they considered deficient (at least somewhat short of the standard they would recommend). The messages were stratified among the screening panel so that each message received three independent assessments. Only those aspects cited as deficient by either two or all three screeners were tallied. Rankings resulted from accumulated deficiencies by professional group participants.

For the Q-sort survey data, numeric values ranging from zero to eight were coded to the cards representing composition aspects on the perceived difficulty continuum. This permitted rank orderings that could be compared with the assessed deficiency rankings.

Findings

As shown in Table 1, writers ranked the following composition aspects as lowest and highest in perceived difficulty:

Least Difficult	Most Difficult
less to greater	*less to greater*
Trite expressions	Clarity
Responsibility acceptance	Idea sequencing
Demeaning expressions	Concise wording
Good news conveyance	Justifying position
Slang	Correctness
Gender bias in language	Conflict resolution
Condescending statements	Information placement
Euphemisms	Logical focus and flow
Jargon	Sentence construction
Message organizing/structuring	Persuasion techniques

Among the professional groups, Distribution had the most rank positions nearest the overall rank (9 perceived aspects); while Insurance had the fewest (4 aspects). The Information Systems group had the most rank positions farthest from the overall rank (11 perceived aspects); while three groups—Human Resources and Insurance—had the fewest (3 aspects each).

TABLE 1
Perceived Difficulties of Writing Aspects by Business Groups in Rank Position

Business group rank position(s) nearest to overall rank for an aspect followed by =.
Group rank positions(s) farthest from overall rank followed by > (greater than) or < (less than).
Overall rank reflects sum of groups' perception rankings—ranging from least (1) to most (40) difficult

Overall Rank	Writing Aspect	Business Group Accounting	Distribution	Finance	Human Resources	Insurance	Info Systems	Manufacturing	Promotion
1	Trite expressions	10	1=	13	3	5	8	2	33>
2	Responsibility acceptance	4	34>	15	7	10	6	8	3=
3	Demeaning expressions	2=	4=	18	4=	11	24>	10	14
4	Good news conveyance	27	6=	1	9	7	10	35>	1
5	Slang	14	8	3=	1	16	27>	26	10
6	Gender bias in language	15	9	7	14	6=	16	16	23>
7	Condescending statements	22	7=	25	11	2	31>	5	5
8	Euphemisms	12	24	35>	6=	1	26	14	13
9	Jargon	30>	23	10	2	28	15	17	6=
10	Message organizing/structuring	39>	2	4	16	29	19	6=	18
11	Concrete language	32	35>	21	5	3	1	25	12=
12	"You" concept conveyance	7	13=	24	23	14	30>	3	30>
13	Diplomacy/tact	6	3	17=	34>	24	39	4	19
14	Originality	8	14=	26	15	25	4	28>	26
15	Ethical standards	24>	22	12	22	23	13=	11	20
16	Tone	5	10	19=	24	22	34>	9	27
17	Positive vs. negative terminology	17	15	2	25	33	17=	13	35>
18	Direct versus indirect approach	19=	19=	33	20	4	38>	1	24
19	Paragraph structure	31	18	22	13	19=	3<	32	29
20	Unfavorable news conveyance	13=	27	27	40>	35	9	12	4
21	Stating purpose	34	17	11	31	32	2<	23=	25
22	Coherence	16	20	16	21=	30	28	37	8<
23	Completeness	40>	40>	14	12	8	35	21=	11
24	Word usage in context	25=	21	23=	35	36	18	7<	17
25	Emphasizing significant points	23	31	6<	17	26=	20	27.	34
26	Concluding the message	9	11	8<	32=	38	33	15	39
27	Legalese	33	32	39	30=	21	11	18	2<
28	Relevant details	38	36=	5<	8	17	36=	38	9
29	Refusal conveyance	1<	26	40	37	34	7	31=	15
30	Transitional words/phrases	20	25	34	19	9<	23	30=	32
31	Clarity	26	33	9<	38	13	32=	24	22
32	Idea sequencing	11	5<	36	33=	15	25	33=	40
33	Concise wording	28	30	31=	18	20	12<	36	28
34	Justifying position	3<	37	30	36=	39	29	19	36=
35	Correctness	37=	39	29	26	31	14<	22	16
36	Conflict resolution	18	38=	38=	39	40	5<	29	7
37	Information placement	36=	29	28	28	18<	21	34	21
38	Logical focus and flow	29	28	32	29	12<	22	40=	31
39	Sentence construction	35	12<	20	27	37=	37=	20	37=
40	Persuasion techniques	21	16	37	10<	27	40=	39	38

As shown in Table 2, the following composition deficiencies were found least and most deficient in the writers' messages:

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TABLE 2
Assessed Deficiencies of Writing Aspects by Business Groups in Rank Position

Business group rank position(s) nearest to overall rank for an aspect followed by =
Group rank position(s) farthest from overall rank follow followed by > (greater than) or < (less than)
Overall rank reflects sum of groups' assessment rankings—ranging from least (1) to most (40) deficient

		Business Group							
Overall Rank	Writing Aspect	Accounting	Distribution	Finance	Human Resources	Insurance	Info Systems	Manufacturing	Promotion
1	Demeaning expressions	2	10	3	1=	1=	1=	9	11>
2	Condescending statements	11	9	2=	13	21>	13	1	2=
3	Slang	1=	6	7	5=	11	20>	18	6
4	Euphemisms	5=	1	1	14	16	3=	5=	30>
5	Gender bias in language	9	3=	11	3=	18	18	3=	22>
6	Good news conveyance	29>	7=	8	11	7=	16	11	4
7	Unfavorable news conveyance	10	5	19	7=	25>	4	14	18
8	Ethical standards	4=	14	12=	2	17	14	4=	38>
9	Trite expressions	15	13	14	17	3	11=	6	27>
10	Conflict resolution	6=	4	21	6=	24	31>	24	3
11	Refusal conveyance	13	12=	27	31>	8	9	10=	12=
12	Relevant details	17	11=	18	26>	15	5	15	17
13	Legalese	33	2	23	12	26>	10	13=	8
14	Diplomacy/tact	22	8	9	18=	27	7	12	29>
15	Persuasion techniques	19	30>	17	21	14=	6	16=	14=
16	Responsibility acceptance	23	19	24	15=	31>	8	20	5
17	Stating purpose	3	40	5	8	6	22=	37>	32
18	"You" concept conveyance	28	16	30>	9	40	19=	22	9
19	Positive vs. negative terminology	26	21=	16	34>	32	12	17=	16
20	Concise wording	21=	34	31	4<	9	29	27	21=
21	Tone	25	17	32	28	37	2<	21=	15
22	Correctness	8	27	13	40	19=	34	2<	35
23	Concrete language	27	15	40	39	2<	23=	7	34
24	Jargon	36	22=	20	10	39	37	19	7<
25	Concluding the message	32	20	25=	22	28	15<	29	19
26	Justifying position	16	31	29	19	22	27=	40>	13
27	Message organizing/structuring	40	18	6<	30=	10	21	36	37
28	Idea sequencing	24	39	4<	36	4<	25=	35	31=
29	Completeness	7<	32	28	29=	20	24	38	28
30	Word usage in context	14<	29=	22	24	35	28	33	24
31	Paragraph structure	31=	23	10<	16	33	32	26	39
32	Originality	18	36=	36=	37	36=	26	23	1<
33	Emphasizing significant points	12<	35=	37	20	29	30	31=	20
34	Logical focus and flow	34=	24	34=	23	30	33	8<	36
35	Sentence construction	37=	25	15<	25	23	39	39	33=
36	Information placement	20	33	26	35	13<	36=	34	40
37	Coherence	38=	38=	33	32	5<	35	32	25
38	Transitional words/phrases	39	26	39	33	12<	38=	28	23
39	Clarity	35	37	35	27	34	40=	25	10<
40	Direct versus indirect approach	30	28	38=	38=	38=	17<	30	26

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Least Deficient	Most Deficient
less to greater	*less to greater*
Demeaning expressions	Paragraph structure
Condescending statements	Originality
Slang	Emphasizing significant points
Euphemisms	Logical focus and flow
Gender bias in language	Sentence construction
Good news conveyance	Information placement
Unfavorable news conveyance	Coherence
Ethical standards	Transitional words/phrases
Trite expressions	Clarity
Conflict resolution	Direct versus indirect approach

Among the professional groups, Information Systems had the most rank positions nearest the overall rank (11 assessed aspects); while two groups—Finance and Insurance—had the fewest (6 aspects each). Two groups—Insurance and Promotion—had the most rank positions farthest from the overall rank (9 assessed aspects); while Distribution had the fewest (1 aspect). Participants were more aware of those aspects causing the *least* potential difficulty (seven of the first ten aspects appeared on both perceived and assessed lists) than of those causing the *most* potential difficulty (four of ten aspects appeared on both lists). The aspect *conflict resolution* appeared on both the ten *most* (perceived) and the ten *least* (assessed) listings.

Combined point ratings from the Q-sort composition difficulty aspects were compared with the combined instructor-screened composition deficiencies in the business professionals' composed messages. As shown in Table 3, rankings of perceived deficiencies differed least and most from rankings of assessed deficiencies in the following composition writing aspects:

Least Divergent	Most Divergent
less to greater	*less to greater*
tie:	*tie*:
Diplomacy/tact	Coherence
Gender bias in language	Jargon
Information placement	
Concluding the message	Relevant details
tie:	
Demeaning expressions	Message organizing/structuring
Good news conveyance	
Positive vs. negative terminology	*tie*:
Slang	Refusal conveyance
	Originality
tie:	
Euphemisms	Direct versus indirect approach
Sentence construction	
Logical focus and flow	Persuasion techniques
Stating purpose	
Idea sequencing	Conflict resolution

TABLE 3
Rank Position Divergences in Comparing Business Groups' Perceived Difficulties with Assessed Deficiencies of Writing Aspects

Parenthetical divergences represent perceived difficulty ranks in excess of assessed deficiency ranks.
Non-parenthetical divergences represent assessed deficiency ranks in excess of perceived difficulty ranks.
Overall rank range: 1 (least divergent) to 40 (most divergent).

		Business Group							
Overall Rank	Writing Aspect	Accounting	Distribution	Finance	Human Resources	Insurance	Info Systems	Manufacturing	Promotion
2.5	Diplomacy/tact	16	5	(8)	(16)	3	(32)	8	10
2.5	Gender bias in language	(6)	(6)	4	(11)	12	2	(13)	(1)
2.5	Information placement	(16)	4	(2)	7	(5)	15	0	19
2.5	Concluding the message	23	9	17	(10)	(10)	(18)	14	(20)
6.5	Demeaning expressions	0	6	(15)	(3)	(10)	(23)	(1)	(3)
6.5	Good news conveyance	2	1	7	2	0	6	(24)	3
6.5	Positive vs. negative terminology	9	6	14	9	(1)	(5)	4	(19)
6.5	Slang	(13)	(2)	4	4	(5)	(7)	(8)	(4)
11.0	Euphemisms	(7)	(23)	(34)	8	15	(23)	(9)	17
11.0	Sentence construction	2	13	(5)	(2)	(14)	2	19	(4)
11.0	Logical focus and flow	5	(4)	2	(6)	18	11	(32)	5
11.0	Stating purpose	(31)	23	(6)	(23)	(26)	20	14	7
11.0	Idea sequencing	13	34	(32)	3	(11)	0	2	(9)
14.5	Condescending statements	(11)	2	(23)	2	19	(18)	(4)	(3)
14.5	Tone	20	7	13	4	15	(32)	12	(12)
17.0	Completeness	(33)	(8)	14	17	12	(11)	17	17
17.0	Word usage in context	(11)	8	(1)	(11)	(1)	10	26	7
17.0	"You" concept conveyance	21	3	6	(14)	26	(11)	19	(21)
19.0	Ethical standards	(20)	(8)	0	(20)	(6)	1	(7)	18
22.0	Transitional words/phrases	19	1	5	14	3	15	(2)	(9)
22.0	Clarity	9	4	26	(11)	21	8	1	(12)
22.0	Trite expressions	5	12	1	14	(2)	3	4	(6)
22.0	Emphasizing significant points	(11)	4	31	3	3	10	4	(14)
22.0	Justifying position	13	(6)	(1)	(17)	(17)	(2)	21	(23)
25.5	Concrete language	(5)	(20)	19	34	(1)	22	(18)	22
25.5	Paragraph structure	0	5	(12)	3	14	29	(6)	10
28.0	Unfavorable news conveyance	(3)	(22)	(8)	(33)	(10)	(5)	2	14
28.0	Concise wording	(7)	4	0	(14)	(11)	17	(9)	(7)
28.0	Correctness	(29)	(12)	(16)	14	(12)	20	(20)	19
30.5	Legalese	0	(30)	(16)	(18)	5	(1)	(5)	6
30.5	Responsibility acceptance	19	(15)	9	8	21	2	12	2
32.5	Coherence	22	18	17	11	(25)	7	(5)	17
32.5	Jargon	6	(1)	10	8	11	22	2	1
34.0	Relevant details	(21)	(25)	13	18	(2)	(31)	(23)	8
35.0	Message organizing/structuring	1	16	2	14	(19)	2	30	19
36.5	Refusal conveyance	12	(14)	(13)	(6)	(26)	2	(21)	(3)
36.5	Originality	10	22	10	22	11	22	(5)	(25)
38.0	Direct versus indirect approach	11	9	5	18	34	(21)	29	2
39.0	Persuasion techniques	(2)	14	(20)	11	(13)	(34)	(23)	(24)
40.0	Conflict resolution	(12)	(34)	(17)	(33)	(16)	26	(5)	(4)

Total	Average Divergence								
12.03	In Rank Positions	11.90	11.50	11.45	12.40	12.15	13.70	12.00	11.15
30.1%	As Proportion of Range	29.8%	28.8%	28.6%	31.0%	30.4%	34.3%	30.0%	27.9%

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The eight business groups ranked as follows in terms of total assessed writing deficiencies and divergence between perceived difficulties and assessed deficiencies:

Deficiencies		Divergence
	least	
Promotion	1	Promotion
Finance	2	Finance
Distribution	3	Distribution
Accounting	4	Accounting
Human Resources	5	Manufacturing
Insurance	6	Insurance
Manufacturing	7	Human Resources
Information Systems	8	Information Systems
	Most	

This finding indicates a strong relationship (Pearson + .91) between the extent of writers' cognition toward composition problem areas and the actual quality of their writing. Six of eight professions carried identical rankings among the groups in both categories. Even the two exceptions—Manufacturing and Human Resources—were closely ranked in the lower half of both categories.

Conclusions

Findings of this study indicated a consensus that considerable deficiencies exist in the general composition aspects of message drafts. A number of deficient aspects diverged in rank from their perceived difficulty by a large margin; such tendencies were indicative of less overall quality in the messages produced. The ten most deficient aspects diverged almost seven rank positions greater from perceptions than did the ten least deficient composition aspects (22.30 versus 15.65). This indicates a lack of awareness on the part of writers as to their legitimate areas of need.

The positioning of professional groups by deficiency rank virtually paralleled the positioning of the groups by ranked divergence between perceived and assessed composition problems. In comparing group total deficiencies (in terms of number of aspects assessed as below standard) with magnitude of perceived difficulty/assessed deficiency divergence, six of eight professional categories ranked identically. The two remaining groups shifted only slightly while occupying the lower tier. The progression of rankings indicated that greater deficiencies were accompanied by greater divergence between perceived and assessed composition writing problems. Thus, participants with greater assessed deficiencies were less cognizant of their justifiable composition weaknesses.

Business Education Applications

The findings point to the particular advantage of determining difficulty perceptions of pupils exhibiting a moderate-to-high range of writing deficiencies. The business educator can approach this on several bases—total group, sub-group, and individual—depending upon class size and career or background similarities. Any approach is individualized for the most part, with only the extent of tracking at issue. With the Q-methodology, the instructor can stratify or collapse data to the extent deemed appropriate. Tracking adjustments are also easy to make, so long as the basic information is collected and retained.

Educators in the business communications area should also relate cognition to performance analysis in planning techniques for correspondence writing instruction. As demonstrated under classroom conditions, relevant instruction can result in a significant quality boost and convergence of perceived and assessed problems in business correspondence writing (Hayes, 1998). What remains is business educators' responsibility to optimize instructional practice for the benefit of career competence in the business world. For those already in the business professions, training should complement experience in ensuring skill transferability. Business educators can use the Q-methodology to gauge writers' cognition toward composition aspects and adapt instructional emphasis accordingly. The perceived difficulty/assessed deficiency gap can be addressed by taking composition samples early in the process; then citing either divergences or recognized weaknesses to transform the "tough" aspects from a position of weakness to one of competence.

Instructional techniques for correspondence writing should have an emphasis on composition aspects contained in identified areas of need. This study offers one such means of identification—analyzing business groups in terms of both perceived and assessed correspondence writing problems. The findings can serve as the basis for instructional practice. Instructional needs are decidedly weighted toward fresh, clear, and well-structured prose. Writers are generally capable of avoiding glaring deficiencies of a more offensive nature. The generally more frequent deficiencies are made more problematic by the tendency of those aspects to be less perceived as difficult by the writers.

By identifying divergences between perceived composition difficulties and assessed composition deficiencies, instructors of business writing may target needed improvements in a more efficient manner. Business educators may use such techniques for a more comprehensive and effective approach to developing writing skills. Adkins (1982) found that business, teacher, and student groups differed significantly in their perceptions of employable business communication skills. The resulting recommendation—that students be made more aware of professionals' positions regarding business communication skills and knowledge—is enabled by the present study. Lemley (1983) found that perceptions of business communication skill areas were more closely aligned between working students and their supervisors than between faculty members and either working students or their supervisors. Business educators tended to perceive communication skill areas more broadly. The present study presents a means of more accurately gauging workplace-writing needs for either conventional or non-traditional business writing programs. Further, it advances the call for "carefully designed surveys, analyses of collected writing samples, interviews, and small groups of professionals" to design and teach more effective courses in business communication (Storms, 1983, p. 18).

The problems of workplace writing should be more intently addressed. Business educators need to gain knowledge concerning the writing needs of field professionals—many of whom seek instructional expertise. This study's correspondence assessments indicated a depth and variety of deficiencies that could diminish the effectiveness of the messages that the professionals write. Further, the data suggested a linkage between accuracy of cognition and performance quality in relative terms. Thus, additional training in composition should be offered to professionals who must regularly write business messages. This may be accomplished with in-house training, during which composition aspects indicative of problems by the participants should be considered for emphasis in the training sessions. While many companies employ writing specialists in their administrative headquarters, more ways of sharing their skills among others in the organization should be sought. Other delivery methods include enrolling employees in continuing education classes with writing emphases or sending employees to refresher seminars tailored to writing tasks. In addition, all professionals who regularly draft messages should have ready access to a correspondence writing manual that contains clear and relevant reference information.

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Assessing the Effectiveness of Distance Education Versus Traditional On-campus Education

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ASSESSING THE EFFECTIVENESS OF DISTANCE EDUCATION VERSUS TRADITIONAL ON-CAMPUS EDUCATION

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(ABSTRACT)

Analysis of traditional and distance teaching and learning in business communications was done to determine whether there was a significant difference in subject matter knowledge as measured by a pre-test and post-test between students taught using the distance learning format and students taught using the traditional classroom format; and to determine whether there was a significant difference in final exam scores, final course grades, age, and preferred learning styles.

Significant differences were found between the two classes with regard to post-test scores, final exam scores, and students' age.

Assessing the Effectiveness of Distance Education versus Traditional On-Campus Education

Introduction

Today, approximately 13 million people are enrolled in distance education (Thomas, 1999). This number will no doubt increase as we enter the 21st Century. Distance education is an alternative method of course delivery being used by colleges and universities nationwide. It has become an avenue that fosters new partnerships among community colleges and universities. Distance education addresses the needs of adult learners who are working adults with career and family responsibilities. It is also an avenue that assists, in part, with the teacher shortage issue. Teachers who are required to take courses for recertification now have the option of taking courses on-line. This helps save traveling time, and courses are available that more conveniently fit into hectic schedules.

Distance education occurs when teachers and students are separated by physical distance, and technology is used to bridge the instructional gap (Willis 1993). With distance education, the instructor is removed from direct, immediate, physical contact with students. This creates a learning environment as well as circumstances that are different from traditional, face-to-face educational settings (Hassenplug & Harnish 1998).

While distance education has become a popular alternative to the traditional face-to-face educational setting, controversy surrounds its effectiveness. Political and public interest in distance education and its effectiveness has become a subject of debate. Research indicates that distance education can be as effective as traditional face-to-face instruction when the methods and technologies used are appropriate to the instructional tasks, when there is student-to-student interaction, and when teacher/student feedback is timely (Verduin & Clark 1991). Studies have suggested that students enrolled in distance education courses earned higher grades than did traditional students (Gubernick & Ebeling, 1997; Heines & Hulse, 1996; Hogan, R. 1997; Kabat & Friedel, 1990; Puzzuoli, 1970; Schutte, 1996; Souder, 1993). However, other researchers have contended that there are no significant differences in grades for distance education students versus traditional students (McKissack, 1997; Mortensen, M. H., 1995; Freeman 1995). Thus, distance education is viewed as being effective by some, yet in the eyes of others, it is viewed as something less than education (Spooner, F., Jordan, L., Algozzine, B., & Spooner, M., 1999).

Purpose of The Study

This study tested the effectiveness of distance education by comparing traditional and distance teaching and learning in business communications. This study sought to determine whether there was a significant difference in subject matter knowledge as measured by a pretest and post-test between students taught using the distance education format and students taught using the traditional face-to-face format. This study also sought to determine whether there was a significant difference in final exam scores, final course grades, age, and preferred learning styles between the two groups.

Methodology

A quasi-experimental research design was used to collect data for the study. The course, Business Communications, was a three-credit undergraduate class at a university in eastern North Carolina. The course was designed to develop an understanding of the need for effective communications in business. Application of basic principles of written communications was utilized to solve specific business problems. Forty-seven undergraduate students were enrolled in the class: twenty-three students were enrolled in the traditional on-campus class, 24 students were enrolled in the distance education class.

Both classes had the same instructor, studied the same course content, used the same course materials, completed the same assignments, were allotted the same time frame for completion of assignments, and took the same achievement tests (pre-test, post-test, final exam). The classes differed in terms of scheduling, accessibility to instructor, instructional media, instructional method, and class location. Instructional media used in the traditional class included computers, PowerPoint presentations, transparencies, and overheads. ECU's distance education course offering resulted from collaboration with Denver-based RealEducation, Inc., a provider of distance education solutions over the Internet. Through the RealEducation system, students could download all course content including audio, video, slide shows and other Internet technology.

The instructional method used with the traditional class was the traditional lecture. Lecture notes for the distance education class were in the form of audio links and written notes. Both classes were able to contact the instructor by telephone, electronic mail, by appointment, during office hours, and by FAX. The traditional class handed in their assignments. The distance education class submitted their assignments as an attachment to e-mail. Instructor feedback on the assignments was made with a color ink pen for the traditional class; feedback for the distance education class was typed within the original attached paper using a different color font. Both classes were required to participate in class discussions. The traditional class participated orally. The distance education class participated via electronic threaded discussions that allowed the entire class to read each other's point of view on a given topic.

To obtain learning styles of the students, the Canfield Learning Styles Inventory was used. The Inventory is divided into four major categories: Conditions for Learning (Peer, Organization, Goal Setting, Competition, Instructor, Detail, Independence, Authority); Area of

Interest (Numeric, Qualitative, Inanimate, People); Mode of Learning (Listening, Reading, Iconic, Direct Experience); and Expectation for Course Grade (A, B, C, D, and Total Expectation). The A- to D-Expectation scales reflects the level of performance anticipated (Canfield, 1977).

Findings

To determine whether distance education is as effective as traditional face-to-face education, this study examined pre-test and post-test scores, final exam scores, final course grades, age, and preferred learning styles of both groups of students. Means, standard deviations, and t statistics were obtained for the traditional class and the distance education class. Results indicated that there was no significant difference at the .05 alpha level between the two groups with regard to pre-test scores and final course grades. However, significant differences were found at the .05 alpha level for post-test scores, final exam scores, and age. The following research questions were addressed:

Is there a significant difference between traditional on-campus students and distance education students on pre-test scores? A pre-test, composed of 50 multiple-choice questions, was given as an in-class test at the beginning of the semester for both groups. Distance education students performed the best with a mean score of 59.21 (55.52 for traditional students) and they had the lowest inter-student variation - S.D. 9.96 (13.50 for traditional students). However, t-test results revealed that there were no significant differences between the pre-test scores of the two groups. The F-ratio of .291 was not significant at the .05 alpha level. This data may suggest that the two groups were similar in knowledge of course content at the beginning of the semester.

Is there a significant difference between traditional on-campus students and distance education students on post-test scores? A post-test was given near the end of the semester. T-test results revealed that there were significant differences between the post-test scores of the two groups. The distance education students scored higher than the traditional students on the post-test. The F-ratio of .026 was significant at the .05 alpha level. Distance education students had a mean score of 72.43 (65.55 for traditional students) and a standard deviation score of 9.12 (10.91 for traditional students).

Is there a significant difference between traditional on-campus students and distance education students on final exam scores? The final exam consisted of true/false questions (1/4th of the test) and multiple-choice questions (3/4ths of the test). The multiple choice questions were designed as case scenarios or situations that required students to apply the knowledge learned throughout the course in order to provide the correct answers. T-test results showed that there was a significant difference at the .05 alpha level between final exam scores. The distance education students scored higher than the traditional students on the final exam. The F-ratio of .017 was significant. Distance education students had a mean score of 85.92 (78.26 for traditional students) and a standard deviation score of 8.16 (12.63 for traditional students).

Is there a significant age difference between the traditional on-campus students and distance education students? There was a significant difference in students' age for both groups. The F-ratio of .000 was significant at the .05 alpha level. The mean score for distance education students was 37.79 (23.13 for traditional students) and the standard deviation score was 8.72 for distance education students (5.12 for traditional students).

Is there a significant difference between traditional on-campus students and distance education students on final course grades? T-test results denoted no significant difference in final course grades for both groups. The F-ratio of .263 was not significant at the .05 alpha level. Distance education students had a mean score of 85.42 (80.57 for traditional students) and a standard deviation score of 13.11 (16.16 for traditional students). The final course grade is a better indicator of students' course performance as opposed to the test measures. The final course grade incorporated test scores, homework assignments, class discussions, as well as project assignment scores. Although there were statistically significant differences between the distance education students and the traditional students on post-test scores, final exam scores, and age, there was no statistically significant difference between these two groups on the final grade.

Is there a significant difference between preferred learning styles as measured by the Canfield Learning Styles Inventory among traditional on-campus students and distance education students?

In the category of **Conditions for Learning**, the most preferred scale for both groups was **Organization.** The group mean for traditional students was10.45, 10.25 for distance education students. Learners who prefer **Organization** desire well-organized course work, meaningful assignments, as well as a logical sequence of activities. They need to know why things occur in a given order and manner. Material must be covered logically and systematically. Learners who prefer organization appreciate and work well with lecture note outlines, course outlines, chapter outlines, and topical outlines. They are likely to receive well-organized presentations that are presented without diversion into unrelated topics. The least preferred scale in this category for traditional students was **Independent** with a group mean of

19.13. This scale is favored by students who like to work alone. They like to determine their own study plan, decide how they want to study, and how they want to do things. They prefer the personal freedom to develop the ways and means to accomplish their goals. The least preferred scale in this category for distance education students was **Authority** with a group mean of 18.70. They tend not to like classroom discipline, maintenance of order.

In the category of **Area of Interest**, the most preferred scale for traditional students was **Inanimate** with a group mean of 12.59. They like working with things--building, repairing, designing, and operating. The most preferred scale for distance education students was **People** with a group mean of 13.95. They enjoy activities that involve working with others. Both groups least preferred the **Numeric** scale with a group mean of 18.81 for traditional students, 17.40 for distance education students.

In the category of **Mode of Learning**, the most preferred scale for traditional students was **Iconic** with a group mean of 12.00. They like interpreting movies, slides, and illustrations. The most preferred scale for distance education students was **Direct Experience** with a group mean of 11.35. They like to directly contact the materials, topics, or situations being studied. They like working with something tangible. The least preferred scale for traditional students was **Reading** with a group mean of 18.81. **Reading** is favored by students who learn through studying printed materials, books, articles, magazines and pamphlets. They may be uncomfortable in a lecture environment. The least preferred scale for distance education students was **Listening** with a group mean of 17.50. They do not like listening to lectures, tapes, and speeches.

In the category of **Expectation for Course Grade**, both groups most preferred **B-expectation** with a group mean of 10.50 for traditional students and 9.35 for distance education students. Both groups least preferred **D-expectation** with a group mean of 21.77 for traditional students and 23.15 for distance education students. This scale represents the level of performance anticipated. Students select the grade they think they will receive. Learners who select the **B-Expectation** scale expect to perform at an above-average level in a learning situation, but not necessarily at a superior level. They are more likely to expect to be in the top 25 to 33%. Learners who select the **D-Expectation** scale expect to do poorly or fail.

Conclusions

As the number of people enrolled in distance education increases, it is important that research be done to determine if, in fact, distance education is an effective alternative to traditional face-to-face education. The major goal of this study was to determine whether distance education was as viable an alternative method of course delivery as traditional on-campus education. Results of this study indicated that distance education can be just as effective as traditional face-to-face education in business communications. No significant differences existed between pre-test scores and final course grades. However, analysis of data revealed that there were significant differences between the distance education class and the traditional class with regard to post-test scores, final exam scores, and students' age. Distance education students scored higher on post-test scores and had higher final exam scores. Students in the distance education course were on average older than students in the traditional class. The average age of the traditional students was 23, average age of distance education students was 38. No significant differences were observed between the groups when total semester weighted scores in the form of final grade averages were used as the indicator of achievement. Thus, there is insufficient evidence to conclude that one method of course delivery is less effective than the other.

As measured by the Canfield Learning Styles Inventory, both the traditional students and distance education students preferred **Organization** and **Detail.** However, the traditional students preferred **Inanimate** (working with things) and **Iconic** (interpreting illustrations, movies, slides, graphs, etc.). Distance education students preferred **People** (prefers working with people) and **Direct Experience** (desires hands-on or performance situations). The traditional students least preferred **Independence** (working alone, doing things independently). Distance education students least preferred **Authority** (classroom discipline, maintenance of order).

This study concurs with the general body of knowledge that students taking courses through distance education perform as well as and in some cases better than students in the traditional classroom. However, caution should be used when interpreting these results. Distance education students scored higher on the post-test and the final exam, but this is not sufficient evidence to conclude that distance education is superior to traditional face-to-face education. Other factors may have contributed to these results; for example, the distance education delivery method catered, in part, to the students' preferred learning styles. Since the average age of distance education students was 38, their learning styles may have been mediated as a result of life experiences. These students least preferred the **Authority** condition for learning. The structure of the class allowed them the freedom to work **Independently** on the course material. They also preferred **Direct Experience** and the structure of the course allowed for considerable hands-on experience in learning the course content of business communications.

Recommendations for Further Research

The issues surrounding the use of distance education via the Internet as an alternative method of course delivery is an important issue that warrants further study. A study that uses identical courses taught within the same semester should be repeated over the course of time to determine if research results are consistent. Distance education students showed a learning style preference for the **People** scale as measured by the Canfield Learning Styles Inventory. A study should be conducted that investigates the impact of incorporating collaborative assignments, teamwork assignments within the distance education course. Finally, this study should broaden to include attitudinal information and evaluations of both the course and the instructor.

Summary

This study adds to the growing body of research regarding the effectiveness of distance education. It is important to note that there were no significant differences between pre-test scores and final course grades. Lack of a significant difference in final course grades may be an indication that one delivery method is not superior to the other. Thus, this study can conclude that while distance education may not be superior to traditional face-to-face education, it can be an acceptable alternative to traditional face-to-face education.

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Self-Directed Learning Resource Usage
Among Office Employees

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ABSTRACT

This study described the learning resources and the self-directed learning levels of office administrators (civil service employees) from a southern Carnegie I research institution. Furthermore, it explored the degree to which a relationship exists between learning resources and self-directed learning. Experimentation, personal note taking and reading were perceived as the most important learning resources. Professional organizations were perceived as the least important learning resource. Only two of the resources, electronic media and consultation had a moderate correlation with self-directed learning. This study provides evidence that experimentation is the most used method of self-learning in a natural workforce setting.

Introduction

Organizations are constantly requiring employees to learn. Methods of self-learning have been examined however, the resources individuals utilize as self-directed learners in an natural office setting have not been examined as well. The learning resources that individuals perceived as important to them when involved in self-directed learning must be available to encourage learning. For this study, self-directed learning was described as "a process in which individuals take the initiative without the help of others in diagnosing their learning needs, formulating goals, identifying human and material resources, and evaluating learning outcomes" (Knowles, 1975, p. 18).

The learning resources Stipp (1997) notes that business education leaders use: professional organizations, reading, investigation, discussion, media, suppliers and vendors, personal note taking, experimentation, observation, consultation, teaching, presentation, writing, mentoring, formal instruction, committees, library resources, and demonstration as resources when they pursue self-directed learning projects. Other research (Straka, Kleinmann, & Stolk, 1994) also supports asking colleagues, purposeful trying (investigation), books, and formal training as sources and resources for self-directed learners.

Methods used in self-directed learning in computer technology have been identified as exploration, transfer of previous knowledge, learning by doing, formal training, user guides and technical manuals, integrated progressive exercises, integrated tutorials, integrated help function, note taking, and observation of other colleagues (Hrimech & Bouchard, 1998). Hrimech and Bouchard (1998) identified resources for difficult learning situations including: learners will ask for help from someone who has knowledge, start over again from scratch, verify steps, analyze the cause of the difficulty, trial and error, and use manuals. In another study, Hrimech (1995) identified seeking others points of view, discussing with peers, seeking outside assistance, experimenting with practical applications, and creating mental images as resources used by self-directed learners. To better understand how administrative assistants learn, it is important to investigate the self-learning resources in their natural workforce setting.

Objectives

The study sought to describe university administrative assistants personal self-learning behaviors. More specifically the study: 1) described perceived importance of learning resources. 2) described the self-learning level of office personnel. 3) explored the degree to which a relationship exists between learning resources and self-learning behaviors.

Methodology

Participants. The study sought the participation of all administrative assistants (civil service employees) at a public university. The participating university was a public southern Carnegie Research I institution in an urban setting. The complete frame was obtained from the current university directories.

Instrumentation. Following Dillman's Total Design Method (1978), a booklet was created to assess self-directed learning, organizational culture, and the needed demographics. The Bartlett-Kotrlik Inventory of Self-Learning (BISL) will be used to measure self-learning behaviors of administrative assistants. The BISL is made up of 56 items. The overall estimated reliability of BISL is .87 (Bartlett & Kotrlik, 1999). The validity of the BISL is shown through criterion-validity, content validity, and construct validity. The criterion-related validity of the BISL is shown by correlating with the Oddi Continuing Learning Inventory at .62 and by correlating with time spent using self-learning resources at .30 (Bartlett, 1999). Content validity of the BISL is demonstrated from the development of the instrument in which a full domain of content was examined and included relevant to self-learning. Construct validity is demonstrated through the theoretical relationships and the specified concepts of self-directed learning. The empirical relationships between the scale measures of the instrument and the theoretical concepts were examined. The BISL was then subjected to a final factor analysis that provided more empirical evidence to clarify the theoretical constructs of self-directed learning.

Data Analysis. The Statistical Package for Social Science (SPSS) software was used to treat and analyze data. Means and standard deviation were used to describe the respondent's scores on the BISL sub-scales. The perceived importance of learning resources was described by reporting the means and standard deviations on the individual items. Correlations will explore if relationships exist between the perceived importance of learning resources and the self-directed learning score.

Results/Implications

A census of administrative employees (N=150) was selected from large southern Carnegie Research I institution to participate in the study. Of the individuals surveyed, 71 (47.3%) responded. A follow-up phone call yielded 5 (3.3%) additional responses from non-respondents for a total response rate of 76(50.6%). The t-tests in Table 1 revealed that no significant differences existed between the respondents and non-respondents on the Total Learning Resources and the Bartlett-Kotrlik Inventory of Self-Learning total scores. Since the t-tests revealed that no significant differences existed on the scores, the responses were combined and all 76 responses were used in the data analysis of the study.

Table 1

Comparison of Respondents and Non-Respondents on Total Learning Resources and Bartlett-Kotrlik Inventory of Self-Learning Total Scores

	Respondents			Non-Respondents					
	N	M	SD	n	M	SD	Df	t	P
Learning Resources	70	95.26	12.69	5	98.20	16.22	73	-.492	.624
BISL	71	60.28	5.21	5	58.12	4.49	73	.904	.369

Table 2 shows that 32.9% (n=25) of the respondents were university administrative specialists. The majority of the individuals (n=71, 93.4) were female. Of the participants 46 (60.5%) were married. The ethnic background of the group was not diverse. Of the respondents 60 (78.9%) were Caucasian. Over half of the participants (n=39, 51.3%) had some college courses.

The participants were 44.3 (SD=9.25) years of age. They were in their current position on average 8.32 (SD=7.13) years. The participants earned $22,500 (SD=$5,263) a year. The majority of the participants, (n=45, 59%) were not seeking further education. Of the participants, 94.7% (n=72) reported they had access to current technology in the work place. The same amount, (94.7%, n=72) had a preference to work with computers to complete job tasks.

Table 2

Position, Gender, Educational Level, Ethnicity, and Marital Status for Respondents

	Number	Percent
Position Title		
University Admin Specialist	25	32.9
Clerk Chief	12	15.8
Word Processing Operator	7	9.2
Office Manager/Coordinator	7	9.2
Administrative Secretaries	11	14.5
Other	14	18.4
Gender		
Female	71	93.4
Male	5	6.6
Education Level		
Some College	39	51.3
Associate Degree	2	2.6
Four Year Degree	8	10.5
Masters Degree	1	1.3
Other	26	34.2
Ethnicity		
African American	9	11.8
Caucasian	60	78.9
Hispanic	1	1.3
Native American	6	7.9
Marital Status		
Married	46	60.5
Single	9	11.8
Divorced/Separated	19	25.0
Widowed	2	2.6

Table 3 shows the scores on the Bartlett-Kotrlik Inventory of Self-Learning sub-scales. The sub-scale scores ranged from 6.69 (SD=. 37) to 3.89 (SD=1.83). The highest sub-scale score of the participants was the performance and self-efficacy of work (M=6.69, SD=. 37). The lowest sub-scale was time management (M=3.89, SD=1.83). The overall estimate of internal reliability for the scale was .87.

Table 3

Scores on the Bartlett-Kotrlik Inventory of Self-Learning Sub-Scales

Inventory	Minimum	Maximum	M	SD
Performance and Self-Efficacy of Work	5.22	7.00	6.69	.37
Others Ratings	2.33	7.00	6.38	.78
Help Seeking	2.33	7.00	6.38	.77
Intrinsic Motivation	3.75	7.00	6.36	.67
Attitude Towards Technology	1.00	7.00	6.23	1.03
Goal Setting	2.25	7.00	6.08	.78
Supportive Workplace	1.25	7.00	5.51	1.49
Extrinsic Motivation	1.33	7.00	5.46	1.38
Peer Learning	1.60	6.80	5.13	1.17
External Support	4.00	5.25	4.98	.30
Time Management	1.00	7.00	3.89	1.83

Note. Scale for the Bartlett-Kotrlik Inventory of Self Learning is as follows: 1-not true of me most of the time, 2-often not true of me, 3-seldom not true of me, 4-undecided, 5-seldom true of me, 6-often true of me, and 7-true of me most of the time.

The results of the office employee's ratings of perceived importance learning resources are presented in Table 4. The most important self-learning resource perceived by the respondents is experimentation (M=6.59, SD=.70). Personal note taking (M=6.30, SD=.70) and reading (M=6.29, SD=1.07) were also rated highly as learning resources. Professional organizations (M=4.34, SD=2.00) were the lowest rated learning resource among the office employees. Library resources (M=4.48, SD=1.75) and media (M=4.48, SD=1.87) were also rated low as important learning resources.

Table 4

Office Employees Perceived Importance of Self-Learning Resources

Learning Resources	M	SD
Experimentation	6.59	0.70
Personal Note taking	6.30	1.07
Reading	6.29	1.08
Observation	6.24	0.86
Electronic Media	6.12	1.18
Consultation	6.01	1.23
Committees	6.00	1.27
Discussion	5.99	1.45
Mentoring	5.96	1.17
Writing	5.42	1.41
Suppliers and Vendors	5.21	1.76
Demonstrations	4.96	1.85
Investigation	4.89	1.82
Media	4.86	1.87
Library Resources	4.48	1.75
Professional Organizations	4.34	2.00

Note. Scale for the Bartlett-Kotrlik Resource Inventory is as follows: 1-most of the time unimportant, 2-often unimportant, 3-seldom unimportant, 4-undecided, 5-seldom important, 6-often important, and 7-most of the time important.

Table 5 shows the correlation's between the self-learning resources and the Bartlett-Kotrlik Inventory of Self-Learning score. Electronic media (r=.325) and consultation (r=.357) were the only two resources that had a moderate relationship to the Bartlett-Kotrlik Inventory of Self-Learning scores. Reading and demonstration resources were found to have negligible correlations and all of the other resources had low correlations (r=.148 to r=.254).

Table 5

Pearson Correlations Between the Self-Learning Resources and the Bartlett -Kotrlik Inventory of Self-Learning Score Inventory

Importance to Learning Resources	Bartlett-Kotrlik Inventory of Self-Learning		
	r	interpretation	p
Professional Organizations	.254	low	.027
Reading	.092	negligible	.428
Investigation	.243	low	.034
Discussion	.190	low	.100
Media	.276	low	.016
Electronic Media	.325	moderate	.004
Suppliers and Vendors	.177	low	.126
Personal Note taking	.182	low	.115
Experimentation	.283	low	.013
Observation	.214	low	.063
Consultation	.357	moderate	.002
Writing	.173	low	.135
Mentoring	.193	low	.098
Committees	.148	low	.206
Library Resources	.200	low	.086
Demonstrations	.005	negligible	.966

Note. Interpretations according to Davis (1971) descriptors: .01-. 09 (negligible), .10-. 29 (low), .30-. 49 (moderate), .50-. 69 (substantial), .70-. 99 (very high), and 1.0 perfect

Conclusions

The majority of the participants were female, had some college, married and Caucasian. The participants had moderate self-directed learning. The sub-scales of time management, external support, peer learning, extrinsic motivation, supportive workplace were the lowest self-learning sub-scales. While performance of self-efficacy of work, others ratings, help seeking, intrinsic motivation, attitude towards technology, and goal setting were the highest sub-scales. The correlations between the self-learning resources and the self-directed learning levels were moderate for electronic resources and consultation and low to negligible for all other resources. These findings support Hrimech and Bouchard (1998) that learners will ask someone for help (perceived consultation as important) when conducting self-learning in the workplace. It also supports Hrimech (1995) that experimenting with practical applications was a method used by self-learners.

Implications

To encourage self-learning in the workplace, it is essential to provide employees learning resources that are perceived as important. Since experimentation was perceived as a an important method to learn employers should encourage the use of this method. Also since consultation and electronic media are related to self-learning it seems natural to develop programs that would encourage the use of both of these methods. Programs that develop the use of consultation could also provide support for help seeking and peer learning activities. Electronic media, such as organizations intranets, can also be used to provide learning resources for employees. Giving employees access to these resources will encourage self-learning and will provide a supportive environment. Improving the self-learning environment, for the individual learner, should create an organization that supports learning.

Further Research

It is essential when viewing the results of this study to consider Foucher's (1998) findings that report, consequences can differ from bureaucratic to less stable organizations. Studies must be conduct to view office employees in other less bureaucratic settings. Also, other research must be done to examine the amount of self-directed learning a person completes as compared to their self-directed learning score on the BISL.

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STUDENTS' PERCEPTIONS OF BUSINESS EDUCATION AS A CAREER

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Abstract

The demand for business education teachers currently exceeds the supply within the State of North Carolina. There are not enough graduates from all teacher education programs in business education combined to meet the immediate availability of positions.

This study reports specific data gathered from students in grades 6-12 concerning their perceptions of business education as a career choice. The study results indicate that the majority of students are not aware that there is a shortage of business teachers in North Carolina. However, the availability of job opportunities was reported by the students as one of the most helpful factors that might affect their career choice.

STUDENTS' PERCEPTIONS OF BUSINESS EDUCATION AS A CAREER

The demand for business education teachers currently exceeds the supply within the State of North Carolina. Data provided by the North Carolina Department of Public Instruction show a large shortfall of licensed business teachers in North Carolina. In order to encourage students' consideration of business education as a potential career, it is important to answer questions such as the following: Why do so few students who attend college choose to major in business education and become business teachers? What are students' perceptions of business education as a career: What influences students to consider or reject teaching as a career? This study was conducted to gather specific data to determine what factors might motivate or deter students in selecting business education as a career choice.

Review of Research

The Division of Human Resources Management Licensure Section of the NC Department of Public Instruction reported that 124 business education positions were filled with lateral entry and provisional licensed personnel during the 1995-96 school year. Data provided by the North Carolina Department of Public Instruction show that only 8.2 percent of the new business teachers employed in 1996-97 school year were issued initial licensure. More disturbing is the fact that of new hires, 53.7 percent of the business teachers employed in the 1996-97 school year were out of field.

Similar data collected from a statewide study of vocational directors conducted in 1996, indicate that for the 1996-97 school year that 6.67 percent of the employed high school business teachers and 11.29 percent of the employed middle school teachers were not licensed to teach business education. Of the vocational directors responding to the study, 71 percent reported difficulty finding business teachers when openings occurred (Sox, 1996).

To add to the problem, the demand for business teachers in the future is projected to continue to increase. Data collected in the Sox study (1996) in North Carolina indicate that approximately 468 business teachers had over 20 years teaching experience. It is reasonable to expect that these teachers will retire in the near future. Ironically, enrollments in business classes in North Carolina public schools continue to increase, especially with the implementation of block scheduling in many high schools. Currently in North Carolina, business subjects have more enrollment than any other workforce development programs. Eighty-three percent of the respondents to the Sox survey (1996) indicated an increase in enrollment in business courses during the last five years and 83 percent

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anticipated a continued increase in enrollment in business courses in the future. This increased enrollment has created a demand for even more business teachers.

At the same time that there is a business teacher crisis in North Carolina, all teacher education programs in business education across the state combined will not graduate enough people to meet the immediate availability of positions. In view of the critical shortage of secondary and middle school business teachers, there is an obvious need to recruit students into this area. However, to successfully recruit these young people, it is necessary to determine the factors that motivate and deter them in selecting business education as a teaching career. A frequent reason given by high school graduates majoring in secondary education was their desire to help others (Morales, 1994). Education students reported that they looked forward to positively influencing young people's lives during their teaching careers. Such majors were also positively influenced by personal contacts from college faculty, including letters and phone calls. They were generally not positively influenced by their families or current teaching salaries. (Morales, 1994)

Purpose

This study explored factors related to the perceptions of students in public schools grades 6-12 concerning their opinions of business education as a career choice. The study explored the following points:

1. What are students' perceptions of business education as a career?

2. What factors might motivate students to consider business education as a career?

3. What factors might deter students from considering business education as a career?

4. Are students aware of the current shortage of business teachers in North Carolina?

Methodology

A questionnaire was developed and validated by business education professionals. The questionnaire was divided into two parts. Part I contained demographic questions concerning gender, age, classes, etc. Part II contained a three-point Likert scale used to indicate the extent to which various factors such as availability of jobs, financial aid, college program information, etc., might influence a student's decision to consider business education as a career.

Part II also contained several open-ended questions asking students their impressions of business classes at their school, their perceptions of the benefits of teaching, etc.

Questionnaires were sent to a random sampling of 207 business teachers teaching in grades 6 through 12 in North Carolina public schools. These teachers were asked to administer surveys to four students in their business classes that they felt might attend college. Copies of the questionnaire were mailed in late February 1999. The teachers collected and returned the questionnaires to the author.

Responses were received from 252 students representing 40 of 100 counties in North Carolina--a 33.3 percent response rate. The data gathered from the questionnaires were analyzed for frequencies and percentages of responses.

Demographics

The students who responded to this survey were enrolled in business classes in grades 6 through 12 and range in age from 12 to 18 years old. Over 75 percent of the respondents were at least 16 years of age and 64.5 percent were female. Almost 69 percent of the respondents were enrolled in grades 11 or 12 in high school. Therefore, these students are probably giving serious consideration to what career choice they will make. A breakdown of the respondents according to grade level is shown in Table 1.

Table 1
Grade Level of Respondents

Grade Level	Frequency	Percentage
6	10	4.0
7	8	3.2
8	9	3.6
9	15	6.0
10	36	14.4
11	65	26.0
12	107	42.8
No answer	2	.8
Totals	252	100.0

Perceptions of Business Classes: Of the 247 usable answers from respondents on the number of business classes being taken, 12.1 percent of the students were not currently taking business classes, 15.8 were taking one course, 25.1 percent were taking two classes, 18.2 percent were taking three classes, and 28.7 percent were taking more than three business classes.

In an open-ended question, students were asked: What is your general impression of the business classes at your school? The students' perceptions of the business courses in which they were enrolled were overall positive. Responses frequently described their business classes as "fun," "enjoyable," and "interesting." Students most frequently responded that their business classes were teaching them important skills that would help them in the future. The following statements represent a sample of positive comments students made regarding their business classes.

- "They help me prepare for my future."
- "They help us become more responsible."
- "They help us deal with life and find a job we would be good at."
- "They prepare us for the real world."

Not all students' impressions of their business classes were positive, indicating that some business classes could be more challenging and updated. The following statements represent typical negative comments from students regarding their business classes.

- "These classes are easy."
- "They're fun, but they don't challenge me."
- "These classes are fun, but not as important as the academic ones."
- "The class needs to focus more on today's society instead of the 1970s and 1980s."

Factors Affecting a Career Choice: When asked what factors would they consider when making a career choice, the majority of the respondents reported that the main reason for choosing a particular career was that they thought it was something they would enjoy (71.8 percent). Other responses to this question included: good pay (10.5 percent), admiration for an individual in the career (2.9 percent), and suggestion by parents (.4 percent). A variety of other reasons were also reported.

Only 24.9 percent of the respondents reported having considered becoming a business teacher as a career, and only 24.6 percent reported knowing there was a severe shortage of business teachers in North Carolina. In an open ended question, students were asked what they thought some of the benefits of being a business teacher were. Typical positive statements from the students included:

- "You get to teach things that kids can really use in life."
- "You'd get summers off."
- "It would be more fun than normal teaching."

Students were also asked an open-ended question on what might be negative about being a business teacher. Although, several students stated that teaching salaries were insufficient, by far the most frequent negative response students provided related to student discipline. Typical negative statements from the students included:

- "Teaching the same things all the time would be boring."
- "I couldn't deal with kids that are not respectful."
- "It's hard work, and teachers don't get the respect they deserve."
- "It would be too stressful to teach teenagers."
- "I couldn't take the students' attitudes."
- "I wouldn't want to put up with kids like me all day."
- "I couldn't handle the stress of teaching."
- "I wouldn't have the patience to try to get through to students who don't care."
- "I couldn't deal with smart-mouth kids who think they know everything."

The students were asked what might help them decide to consider business education as a career. This question had three response choices: not at all helpful (1), somewhat helpful (2), or very helpful (3). The mean scores of the students responses indicated that the most helpful would be job opportunities after graduation and availability of scholarship or other financial aid. Other factors such as a visit to a college or university campus and information about a college or university business education program were cited as somewhat helpful. Factors such as encouragement from parents, teachers, counselors, and friends were cited as being least helpful. Table 2 lists a summary of the means of the responses given by the respondents.

Table 2
Factors Affecting Business Education as a Career Choice

Factor	Mean	Standard Deviation
Job Opportunities	2.64	.39
Scholarship/financial aid	2.61	.62
Information from a college	2.27	.66
Visit to a college campus	2.23	.68
Encouragement of teacher	1.93	.68
Encouragement of parents	1.91	.71
Encouragement of counselor	1.76	.65
Encouragement of friends	1.69	.71

Conclusions and Implications for Education

Based upon the results of this study, the following implications are suggested for business educators:

1. Since the overall student perceptions of business classes are positive, both business teachers in the public schools and teacher educators should use these perceptions to promote business education as a potential career. Teacher educators and public school business teachers should work together to inform students of the positive benefits of teaching, the current abundance of business teaching opportunities, and college programs that offer majors in business education.

2. Since availability of jobs was given as one of the most helpful factors in making a career choice, both teacher educators and business teachers must publicize the current business teacher shortage, recruit outstanding students to major in these careers, and inform general advisors at the college level and counselors at the high school level of the present abundance job opportunities in business education.

3. Since students listed the availability of scholarships and financial aid as helpful in making a career choice, business education faculty at universities should work with their administrators and development officers to identify scholarships for outstanding students who plan to major in business education, to reward good performance of upperclassmen in business education programs, and to assist with student teaching costs.

3. Since students listed information about colleges and visits to colleges as factors in deciding on a career, business teacher educators should encourage potential business education majors by providing information about their programs, and invite these students to tour their campus and visit business education undergraduate classes. Packets of information should also be sent to business teachers and counselors in both middle schools and high schools to share with students.

4. Since classroom discipline concerns negatively affect students' decisions to choose teaching as a career, business teacher educators should emphasize classroom discipline in the business education undergraduate curriculum to assure that beginning business education teachers are competent classroom managers.

5. Further research utilizing business students from different geographic regions of the country should be conducted to provide informative comparisons and contrasts. Such information might help business education professionals to more effectively market business education as a desirable course of study in higher education.

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Business Education Students' Worldview: Implications for Program Development in Regional Universities

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Business Education Students' Worldview: Implications for Program Development in Regional Universities

ABSTRACT

This study involved administration of Ibrahim's (1994) Scale to Assess Worldviews to graduate and undergraduate Business Education students at two regional universities to determine their worldviews. Four worldview preferences were calculated from the survey. Although analyzed data revealed some variation among gender, race, and class, similarities were much more evident. Results from this survey, as advocated by Hansman, et al. (1999), can assist Business Education teacher educators to plan curricula that focus on diversity issues and stimulate active discussion and understanding among students.

Business Education Students' Worldview: Implications for Program Development in Regional Universities

Introduction

With increasing diversification of the U.S. population based on immigration rates, aging trends, and higher birth rates for Asian and Latino cultural groups (Puente & Kasindorf, 1999; SCAN US, 1999; U.S. Bureau of Census, 1992), how are we as teacher educators adapting our instructional models and course content to better prepare teachers to handle increasing diversity in the classroom? Some of the literature from management education (Grimes, 1998) supports the notion that before teaching diversity issues, educators should consider themselves as the first learners and start with their own self-awareness. In a related area, counselor education, literature also indicates that the first step in successfully relating to culturally diverse populations is increasing self-awareness (Pedersen, 1988). Additionally, Ivey (1993) and Sue, et al, (1992) stated that for effective therapy to occur, one must understand the worldview from which one's responses emerge as well as understand the worldview of the other. From the field of teacher education Cobern (1989) remarked that not considering the diversity of worldviews displayed in the typical classroom retards a more comprehensive understanding of factors that lead to greater achievement and positive attitudes. Thus, it seems that a greater knowledge of worldview enhances not only change in the therapeutic sense, but also in classroom achievement and development of positive attitudes toward learning.

If increased awareness of one's worldview is a primary step in successfully relating to culturally diverse populations, it seems that ascertaining the worldview of teachers in training would be a necessary step in planning more effective instructional models and curricular content. Thus, the purpose of this pilot study was to ascertain the worldviews of business education majors, graduate and undergraduate, in two regional universities in order to plan more effective programs and curricular experiences.

Review of Literature

Worldviews are formed out of personalized interactive experience with members of one's culture (Schwartz, 1992; Wolcott, 1991). Although there are multiple sources of variation within cultures, one's experiences tend to become organized into systems of thought (Agar & Hobbs, 1985; Kearney, 1984; Wolcott, 1991) and the resulting worldviews are interrelated (Kearney, 1984). Thus, specific worldviews fall within the larger domain of general worldviews and the entire system strives toward internal consistency (Trevino, 1996). Kluckhohn & Strodtbeck (1961) proposed five existential categories that would underlie differing cultural perspectives or worldviews. The first category, human nature, consisted of four variations: evil, neutral, mixture of good and evil, and good. The man-nature orientation, the second category, included: subjugation to nature, harmony with nature, and mastery over nature. The category, time, encompassed: past, present, and future emphases. The fourth classification was activity and included three elements: being, which included spontaneity and the natural unfolding of life; being-in-becoming, as emphasizing development of all aspects of self as an integrated whole; and doing, where individual effort fused with self-worth, competition, and scarcity of resources. The last category was relational orientation, which also referred to three perspectives: lineality, which referred to biological and cultural relationship over time; collaterally, where people becoming human began by coexisting within a social order with its cultural mores; and individualism, where the emphasis was on the person as the primary unit.

This entire worldview system strives toward internal consistency and the system attempts to minimize contradictions (Trevino, 1996). This minimizing is manifested in some form of resistance. LeCompte (1985) found that teacher reaction to prolonged accommodation to such contradictions as found in working with culturally diverse populations, often resulted in fear, hostility, and physical illness. Another form of resistance or negative accommodation was seen in the form of strengthened negative attitudes after extensive direct experience with diversity (Nespor, 1987; Zeichner, 1993). Trevino (1996) suggested that monitoring student's dissonance, as well as our own, might be one part of effective training. He further stated that to be most effective, helping professionals need to be aware of their worldview, how they see the world, and how they interact with it. Although Trevino (1996) was making specific reference to counselors-in-training, the parallels to teachers-in-training may also apply. In fact, Mezirow (1990) recommended that adult learners reflect upon prior learning to determine how they acquired their beliefs and values and then to use this knowledge as a basis for greater understanding of their own values as well as others' values and perspectives.

The responsibility of understanding oneself, differing worldviews, and larger social contexts can be a daunting task. However, going beyond the more superficial symptom, behavior recognition, to ascertaining the underlying value, belief, and worldview being expressed, is necessary for developing effective cross cultural interactions. When these cross-cultural clashes are recognized and understood within their own context, and reduced, an atmosphere is created in which more learning of academic knowledge and skill development can occur.

As teacher educators, we believe that it is imperative that we help students become more aware and sensitive toward cross-cultural issues as a basis for becoming more effective practitioners. In order to do this, it is important to know the level of understanding that students have of their own worldview as well as other possible worldviews so that effective classroom experiences can be provided. To assess the current worldview of business education students we chose the Scale to Assess World Views (Ibrahim, 1994). This instrument was first constructed in 1987 and was revised in 1994. Further research with this instrument has revealed that it can assist in identifying various worldviews within a specified group. It also appears to have adequate internal consistency and construct validity (Ibrahim, 1994; Ibrahim & Kahn, 1987).

Method

The data were collected within the same month from graduate and upper classmen undergraduate students enrolled in Business Education courses of study at two mid-sized regional universities in the southeast. Students from both universities were typically from and return to rural settings. Enrollment in the Business Education classes surveyed at both universities was comparable with 6 graduate students in each university data set and undergraduate numbers ranging from 9 at one university to 12 at the other. Both universities offer Bachelor's and Master's degrees in Business Education and are designated as regional universities.

During the academic term of data collection, the senior level Business Education course preceding student teaching and a required Masters level course were surveyed. To better understand the population surveyed, demographic data collected included classification, gender, and race.

The Scale to Assess Worldview asks participants to choose on a Likert scale how strongly they agree or disagree with statements such as "No weakness or difficulty can hold us back if we have enough will power" and "A couple would be happier if all their decisions were mutually agreed upon" (Ibrahim, 1994). Four worldview preferences are calculated from the survey with the highest score representing the dominant worldview and secondary worldviews reflected in descending order. The four categories are as follows (Ibrahim, 1994, p.2):

> *Worldview I (Optimistic)*: This perspective is characterized by values in three areas: human nature, activity orientation, and nature. There is a belief that human nature is essentially good. Activity must focus on inner and outer development (i.e., spiritual and material). There is a need to be in harmony with nature, with an acceptance of the power of nature.
>
> *Worldview II (Traditional)*: The emphasis in this perspective is on social relationships, time, and nature. Social relationships are defined by accepting that relationships are primarily hierarchical, with some exceptions for collateral-mutual relationships. Time is both mostly future oriented, with some emphasis on the past. Regarding Nature, there is a belief in subjugation and control of nature.

Worldview III (Here and Now): This worldview reflects assumptions from two value dimensions, activity and time. The activity focus is primarily on spontaneity. Time emphasis is mainly on present time, with some attention to the past.

Worldview IV (Pessimistic): This perspective reflects assumptions from three value areas: human nature, social relationship, and nature. Human nature is considered primarily bad, with some allowance for it being a combination of good and bad qualities. There is an acceptance of the power of nature. The social relationship orientation is collateral mutual.

SPSS 6.1 computer program was used for data analysis that yielded mean and standard deviation comparison. Since this was a pilot study all categories were included without regard to the low frequencies within each category.

Findings

Demographics

The Worldview Survey was given to 33 Business Education students enrolled in junior/senior level methods classes and a required masters of education course in two mid-sized regional universities in the southeast. Graduate students made up 36% of the population while 64% were undergraduate. Of the total population 24% were male and 76% were female. Twenty-one percent of the participants were African-Americans, 76% were European-American, and 3% were of other ethnic backgrounds. There were 18 or 55% of the students from university A while the remaining 15 or 45% were from university B.

Analysis of world views

The mean scores and standard deviations for the entire population of 33 were: World view I (Optimism) M=4.01, SD=.451; World view II (Traditional) M=2.46, SD=.534; World view III (Here and Now) M=2.63, SD=.713; and World view IV (Pessimism) M=3.34, SD=.462. The data indicated that Worldview I (Optimism) was the predominant view of most participants with a descending order of preferences as follows: Worldview IV (Pessimism), Worldview III (Here and Now), and World view II (Traditional).

Data collected from University A, comprised of 18 students, indicated means and standard deviations of: World view I (Optimism) M=4.02, SD=.496; World view II (Traditional) M=2.51, SD=.65; World view III (Here and Now) M=2.84, SD=.742; and World view IV (Pessimism) S=3.41, SD=.548. Order of preference was Optimism, Pessimism, Here and Now, and Traditional. For university B with 14 students, means and standard deviations were: World view I (Optimism) M=3.99, SD=.403; World view II (Traditional) M=2.39, SD=.363; World view III (Here and Now) M=2.38, SD=.606; and World view IV (Pessimism) M=3.26, SD=.318. The order of preference here was Optimism, Pessimism, Traditional, and Here and Now.

Preferences of the 21 undergraduate students as indicated by means and standard deviations were: World view I (Optimism) M=4.08, SD=.441; World view II (Traditional) M=3.32, SD=.471; World view II (Here and Now) M=2.77, SD=.828; and World view IV (Pessimism) M=3.32, SD=.471. The descending order of preference was Optimism, Pessimism, Here and Now, and Traditional.

Of the 12 graduate students surveyed, their means and standard deviations were: World view I (Optimism) M=3.91, SD=.462; World view II (Traditional) M=2.38, SD=.417; World view III (Here and Now) M=2.44, SD=.483; and World view IV (Pessimism) M=3.38, SD=.464. Their order of preference was Optimism, Pessimism, Here and Now, and Traditional.

Of the 33 students surveyed only 7 were male. The mean scores and standard deviations for the males within this study were: World view I (Optimism) M=4.05, SD=.373; World view II (Traditional) M=2.66, SD=.257; World view III (Here and Now) M=2.67, SD=.593; and World view IV (Pessimism) M=3.55, SD=.518. The Optimism worldview was the first preference for males with Pessimism, Here and Now, and Traditional following in that order.

Female participants numbered 26. Their mean scores and standard deviations within this study were: World view I (Optimism) M=4.02, SD=.50, World view II (Traditional) M=2.51, SD=.65, World view III (Here and Now), M=2.84, SD=.742, and World view IV (Pessimism) M=3.41, SD=.548. The female order of preference was Optimism, Pessimism, Here and Now, and Traditional

Race was divided into three categories of White, Black, and Other. Twenty-five were White, seven were Black, and one was identified as Other. Means and standard deviations for White students was: World view I (Optimism) M=4.06. SD=.452; World view II (Traditional) M=2.37. SD=.379; World view III (Here and Now) M=2.43, SD=.561; and World view IV (Pessimism) M=3.31, SD= .431. Order of preference for White students was Optimism, Pessimism. Here and Now, and Traditional. Black students' means and standard deviations were: Worldview I (Optimism) M=3.81, SD=.457, Worldview II (Traditional) M=2.49, SD=.537, Worldview III (Here and Now) SM=3.33, SD=.486; Worldview IV (Pessimism) M=3.33, SD=.486. The Black order of preference was Optimism, Pessimism, Here and Now, and Traditional. For the category Other, the means were: Worldview I (Optimism) M=4.00; Worldview II (Traditional) M=4.4; Worldview III (Here and Now) M=4.67; and Worldview IV (Pessimism) M=4.29. The order of preference for this category was Here and Now, Traditional, Pessimism, and Optimism.

Discussion

Although the worldviews of Business Education students surveyed did reveal some variation, similarities were much more evident. For all groups at both universities A and B, the dominant worldview was I (Optimism) followed by worldview IV (Pessimism). All specified groupings from university A preferred Worldview III (Here and Now) over Worldview II (Traditional) while the total student population from university B preferred Worldview II (Traditional) to Worldview III (Here and Now). In general, the standard deviations for university B were somewhat smaller than those at university A. The numerical differences were minute for the third and fourth preferences. Since this pilot study is the beginning of data collection, the cell sizes were small and significant differences between universities or preferences could not be calculated.

The undergraduate population had slightly higher means than did the graduates on all scores except Worldview IV (Pessimism) and the difference was minute. The graduates tended to have slightly smaller variations in responses as indicated by the smaller standard deviations. The ranking of worldview preferences for both groups was the same with the descending order of Optimism, Pessimism, Here and Now, and Traditional.

In the area of gender, the females outnumbered the males in this study by nearly 4:1 but the male responses tended to be higher or more definitive on their first and second preferences. Females tended to have lower scores than the males suggesting fewer extreme score choices; however, the standard deviations for the female group were higher than those for the male group. Once again the order of preference was similar with the following ranking: Optimism, Pessimism, Here and Now, and Traditional.

In the area of possible racial differences, there was less numerical spread in mean scores for Blacks than for Whites; however, the standard deviations for the Black students were larger. The between worldview preferences was less definitive while the responses within each preference had more variance. Both groups, Whites and Blacks, had the following preference in worldview: Optimism, Pessimism, Here and Now, and Traditional. Although there was only one student identified as other, the world view preferences of this student were quite different from all other groups as indicated by the following order: Here and Now, Traditional, Pessimism, and Optimism.

Conclusions

There was unanimity in primary and secondary worldview preferences between all of the groupings within the Business Education majors but the preferences themselves seem inconsistent. With the small number of students surveyed, only speculative inferences can be made. However, the discrepant notions of the basic nature of humans being good and/or bad, the acceptance of the power of nature coupled with the need to be in harmony with nature, and different foci of spiritual and material development versus the social orientation of collateral, mutual relationships could create enough discrepant beliefs and values as to result in resistant behaviors. By embracing both the worldviews of optimism and pessimism, the striving of internal consistency that Trevino (1996) suggested as necessary to minimize resistant behavior, may be operant for this group. These inconsistencies could interfere with effective cross cultural relationships.

When comparing means and standard deviations between the two university populations, graduate/undergraduate classification, gender, and race, considerable caution should be exercised in making inferences. The numbers within each grouping were so small as to obviate analyses for significant differences. However, some of the differences might be worthy of notice. The standard deviations for university A were greater than for university B. Additionally, female responses had more variance than male, and responses from Blacks were more varied than from Whites. A commonality among these differences might be gender. Those groups with greater standard deviations were predominately female. University A had only one male participant and there were no Black male students in this study.

Implications

Taking into consideration the consistencies of the worldview preferences of the Business Education students surveyed, greater emphasis on the implications and behavioral manifestations of one's worldview might be included in classroom discussions. Trevino (1996) suggested a monitoring of student's internal dissonance as well as our own; Mezirow (1990) advocated reflecting on how our beliefs and values were acquired; and Grimes (1998) supported the notion that before teaching diversity issues, educators should consider themselves as the first learners and start with their own self-awareness. Open exploration of resistances from students as well as our own resistances may be an unfamiliar task within education and in the south in particular. These topics are intertwined with ethical, moral, spiritual, and religious issues that are difficult to face in the cultural contexts of education and the south. More specifically, the traditional adherence to the separation of church and state and the history of slavery, gentlemanly chivalry, and womanly gentility in the south could make in depth discussion of beliefs and values based on worldview a sensitive issue. Even though it might be a sensitive issue, it may be a necessary one for effective cross cultural relationships that enhance learning and achievement.

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A Comparison of Secondary Business Education Students' Learning Styles With Their Teachers' Instructional Styles

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A Comparison of Secondary Business Education Students' Learning Styles With Their Teachers' Instructional Styles

Need

Historically, literature has supported the belief that most teachers teach the way they learn. Thus, "knowing the kinds of learning experiences that students most value may help instructors develop alternative course structures that provide a better fit between their instructional goals and the learning style preferences of their students" (Marshall, 1991, p. 1). For teachers and students to reach mutual goals, namely academic success, they must understand each others' preferred learning and instructional styles. This need is further affected by the changing demographics in classrooms throughout the United States today.

Purpose and Objectives

As the learning environment continues to change, so must teachers modify instructional strategies to better ensure learning in the classroom. In light of the dramatic change in demographics, this awareness of and sensitivity to students' preferred learning styles is increasingly important. Thus, the objectives of this study were to:

1. Identify the preferred learning styles of a group of secondary business education students.
2. Determine whether a match existed between the students' preferred learning styles and their teachers' preferred instructional styles.
3. Determine whether a match existed between the students preferred learning styles and teacher's instructional style by student gender.
4. Determine whether a match existed between the students' preferred learning styles and teacher's instructional style by student race.

This information will be especially useful to business teacher educators as part of methods and instructional strategies courses.

Theoretical Framework

A number of studies have focused on how students learn. "When students cannot learn the way we teach them, we must teach them the way they learn," according to Dunn (1990, 15), an expert on teaching and learning styles. For example, Fitzgerald and Bloodsworth (1996) studied the learning styles of rural college students. They found these students perceived learning as a social experience; they had an aversion to individual recognition and preferred cooperation with others; and they preferred to have information transmitted orally. Using these findings, instructors of rural college students structured their classes to incorporate more team projects and oral presentations.

Schools continually search for ways to make all students high achievers and other studies have focused on using learning styles to help students improve. Callan's (1996) study focused on how knowing one's learning style could help a high school student learn new material. Sixty-five students took the Dunn, Dunn, and Price Learning Styles Inventory to determine their primary perceptual modality: auditory, visual, tactual, or kinesthetic. Once the students were classified, Callan and other teachers provided the students with individually appropriate techniques to learn material. The students were then given a topic and told that it would be introduced and discussed as usual and then tested over the next week. Using the individualized techniques, the students studied the new material on their own. The majority of students significantly improved their test scores.

Teaching styles are defined as the various identifiable sets of classroom behaviors by the teacher which are consistent even though the content that is being taught may change (Fischer &

Fischer, 1979). The most effective teachers are those who used their students' preferred individual learning styles as the basis for instruction.

Procedures

This study was an extension of an earlier study which determined the preferred learning and instructional styles of a group of high school business education teachers. In the original study, the high school business education teachers completed the *Canfield Learning Style Inventory* and the *Canfield Instructional Style Inventory*. For the present study, those participating high school business education teachers were asked to administer the *Canfield Learning Styles Inventory* (LSI) to two groups of their business education students: one in a computer-based class and one in a traditional class. Eight of the original 25 teachers agreed to participate; resulting n = 232. The LSI was administered by the researchers to classes at the coordinated convenience of the teacher and researchers. Once all the inventories were administered, a learning profile and typology was determined for each class. This analysis permitted the researchers to look for a match between the instructional profile and typology developed earlier for the participating teachers and the preferred learning styles of their students.

Findings and Conclusions

Eighteen percent of the students indicated that their preferred learning style was independent. Three of the eight teachers noted their preferred instructional style as independent. The breakdown of other students and preferred learning styles were applied (15%), independent/applied or conceptual (13% each), social/applied and neutral (10% each), social/conceptual (9%), and social or independent/conceptual (6% each).

Those students (18%) preferring the independent learning style are most likely to work alone and are less interested in social interaction. Instructional techniques that would be helpful to independent students are case studies and self-paced programmed instruction. The independent/applied learners also prefer to work alone and need materials that are closely related to real-world experiences. Individual labs and unsupervised technical practical experience lend themselves well to instructing this type of learner. Conceptual learners prefer to work with highly organized language-oriented concepts and are less interested in instruction via a real-world setting. Instruction through lecture and reading will match their learning needs. Independent/conceptual learners prefer to work alone in areas of language and organized material. They are frustrated when asked to spend time on social interactive lessons. Creating instructional situations that allow these students to complete independent readings, literature searches, and reviews will better match their learning style.

Social/applied learners prefer to interact with students and instructors in real-world experiences and feel less comfortable with solitary or self-directed activities. Role playing and group problem solving instruction would meet their learning needs. Students with a neutral learning style have no one particular preferred learning style; however, the lack of preference may reflect some degree of noninvolvement. These students may find it easy to obtain adequate instruction from a wide variety of materials and approaches. Social/conceptual learners prefer to interact with students and instructors in language courses and prefer conceptually organized materials. They will feel frustrated if expected to work in a solitary or self-directed environment. With a balance of lecture and discussion, the instructor can meet the learning needs of social/conceptual learners. Students who prefer the social learning styles favor extensive interaction with others. They will be less comfortable when submersed into a solitary/self-directed activity. Using small group and teamwork instruction would meet their learning styles needs.

No statistically significant match was found between the preferred learning styles of any of the students sampled and their teachers' preferred instructional styles. Nor were any statistically significant matches found when the variables of gender and race were considered. Typically, when students are not successful academically, something is lacking in the learning environment. A lack of research in learning and instructional styles would attribute to the reason for a mismatch between the teacher's instructional style and the student's learning style. When this happens early in the child's educational experience and continues, the probability increases that the student will become academically at risk. For our study, due to privacy laws which precluded us from obtaining students' grade point averages, we were unable to determine if any student participants in our study were academically at risk. However, simple probability dictates a portion were.

While no statistical significance was obtained in the data collected for this study, this information will be especially useful to business teacher educators as part of methods and instructional strategies courses. Pre-service and veteran teachers must not only be introduced to learning and instructional styles, but be able to adapt their instructional styles to meet the needs of their students.

Educational Significance

The results of this research will contribute to business education in several ways. First, it will identify learning styles of typical secondary business education students. This will yield important information regarding different ways students learn. The resulting mismatch between these students' preferred learning styles and their teachers' preferred instructional style should provide the foundation for meaningful discussion and instruction in current methods of instruction courses in teacher preparation programs.

Related benefits may include the possible identification of preferred learning styles from culturally diverse groups. As the composition of the classroom continually changes throughout the United States, it is important that we pay close attention to these changes and modify instructional strategies if and when needed. Also, this study and the related literature may prove to be a source of information for classroom educators currently looking for new ways to help their students learn and retain information.

Recommendations

The following recommendations are made.

1. Given commonly taught business education courses, develop a variety of instructional strategies to meet the variety of students' learning styles.
2. Design a future study in different states to compare findings.
3. Administrators must develop staff development for teachers in the areas of learning and instructional styles.
4. Pre-service teachers must be given the foundations of interpreting learning styles of students and creating appropriate instructional strategies.

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GUIDED PRACTICE VS. INDEPENDENT PRACTICE IN TEACHING ELECTRONIC DATABASES

A Research Report
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by

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Abstract

This study compared the effectiveness of the guided practice method and the independent practice method of teaching electronic database applications. Two intact sections of computer software applications classes at the secondary high school level were studied. Both sections were taught by the same teacher.

Statistical analysis of the data revealed that guided practice learning activities were the more effective teaching method when focusing on the content achievement of students. Independent practice learning activities were reported to be the more effective teaching method in relation to skill level achievement of students.

Guided Practice vs. Independent Practice In Teaching Electronic Databases

Computer technology is changing the world. Computer systems are in our homes, schools, and workplaces. "Most of the new technology is directly related to or made possible by the computer" (Hall, 1990, p. 8). No segment of our society embraces computer technology as aggressively as the business world. Today the personal computer (PC) is a fixture in most business organizations, large and small. Computer skills have become a basic requirement for persons entering the workplace. The growth in popularity of microcomputer applications has led to extensive instruction on computer applications in educational institutions at all grade levels. According to Wiedmaier and Echternacht (1998, p. 1), "The microcomputer business applications courses taught at the secondary and postsecondary levels generally include instruction in word processing, spreadsheets, databases, graphics, and communications applications."

Problem

Which method of computer software applications classroom instruction, guided practice or independent practice, is more effective for teaching electronic database applications? "Teacher educators should provide leadership in conducting and applying research which assumes that instruction is based on valid information, new concepts, and technological advances" (Policies Commission for Business and Economic Education, 1993). If teachers of computer software applications are to be prepared appropriately, information relative to the effectiveness of various instructional methods must be analyzed systematically. This systematic analysis should include both guided practice learning activities and independent practice learning activities.

Computer software applications classes are often taught in computer classrooms/ laboratories with each student seated at a computer. The instructional facility usually is equipped with a demonstration computer and projection equipment so each student can view and follow the procedures as the teacher demonstrates. The teacher lectures and demonstrates the use of the applications software as students follow along at their computers. Then, students complete their assignments under the direction of the teacher (guided practice learning activities). In such classes, enrollments are limited to the number of computers available in the classroom/laboratory.

In contrast, other computer software applications classes are being scheduled into regular classrooms equipped with a demonstration computer and appropriate projection equipment so each student can view and mentally follow the procedures being demonstrated by the teacher. Students are expected to take notes as the teacher lectures and demonstrates. After receiving the instruction, students go to a computer laboratory to complete the assignments independent of their classmates and teachers (independent practice learning activities).

Purpose of the Study

The study was designed to identify if the guided practice method or the independent practice method is more effective for teaching electronic database applications. The specific research questions addressed were:

1. Is there a difference in the knowledge gained between students who complete guided practice learning activities and students who complete independent practice learning activities in an electronic database class?

2. Is there a difference in the skill level achieved between students who complete guided practice learning activities and students who complete independent practice learning activities in an electronic database class?

Related Literature

An extensive review of the literature was conducted. The review revealed that little information that focuses specifically on teaching database applications has been published. When considering the topic of teaching microcomputer applications, McEwen (1996) concluded that even though there are numerous textbooks available on microcomputer applications, very few address the use of instructional methods. Database instruction has received less attention from educators and researchers than word processing and spreadsheet instruction. A study by Wiedmaier and Echternacht (1998) addressed the lack of universally accepted database competencies needed for entry-level employment. "Database applications, however, have not been clearly defined or standardized. A set of relevant database competencies which are accepted by both education and business is not currently available" (p. 1).

Everett and Drapeau (1994) studied a variety of teaching methods for teaching computer applications. Of the teaching methods they considered, lecture was not considered effective; but it was the method used most frequently by educators.

Pan (1991) compared students' learning achievements in word processing resulting from the direct instruction method and the guided exploration method. Forty-five adult beginning word processing users were randomly assigned to nine small classes. Five of the classes were taught using a guided exploration approach; four were taught using direct instruction. The direct instruction class received step-by-step instructions for performing specific word processing tasks.

The guided exploration group received general demonstrations and were provided limited help to learn specific word processing tasks.

Results of the study (Pan, 1991) showed significant differences in achievement between the two instructional groups in favor of the guided exploration method. Significant interaction effects were revealed between cognitive learning styles, and field dependent students were found to benefit more from the guided exploration method than from the direct instruction method. No significant differences were found between the two study groups in the areas of computer efficacy scores, attitude scores, gender, learning preference scores, basic or advanced levels of word processing tasks, and typing scores.

Lundgren, Lundgren, and Mundrake (1995) reported that computer software applications skills can be taught without computers.

> Teaching computer applications without computers seems like teaching swimming without water, but it is possible (and even desirable) to teach database and spreadsheet **concepts** in a traditional classroom setting. The appropriateness of this method depends to a great extent on the objectives of the course. When the primary objective is to develop a skill using software, a hands-on approach is better. Also, when students are preparing for specific jobs, learning should take place on the computer. At the post-secondary and college/university levels, where courses stress concepts as well as skill building, instructors may use the lecture and discussion approach or a lecture/lab combination. (p. 19)

Lundgren, Lundgren, and Mundrake (1995) discussed two major problems when teaching database or spreadsheet software applications without computers. The first problem they expressed is the lack of student involvement. The second problem is the lack of planned opportunities for students to develop proficiency.

Methodology

The research study utilized a quasi-experimental design. Two groups (intact classes) were studied and designated as Treatment Groups A and B. In Treatment Group A students received the lecture/demonstration method of database instruction followed by guided practice learning activities. In Treatment Group B students received the lecture/demonstration method of database instruction followed by independent practice learning activities.

Treatment Groups A and B used the same course materials. Both groups completed the same textbook readings and skills development assignments. The students in both groups had taken a pre-requisite computer applications class. A written pretest was given to both groups and an Analysis of Variance (ANOVA) was applied to the scores to determine if the groups were statistically similar. A post-test that was identical to the pretest was given to all students in each treatment group to determine the content knowledge achievement of students. An ANOVA procedure was applied to the post-tests scores to determine if a statistically significant difference existed between the two groups.

An applications skills test was developed by the researchers. To determine content validity, the instrument was reviewed by three university professors who have taught database instruction. The students in both groups were administered the same applications skills test to determine their skill level achievement. An ANOVA procedure was applied to the applications skills test scores to determine if a statistically significant difference existed between the two groups.

Two sets of variables were identified in the study. The independent variables were (a) guided practice learning activities and (b) independent practice learning activities. The dependent variables were (a) student achievement in content knowledge and (b) student performance in skill achievement. The two treatments were conducted during the 1999 spring semester at the high school level with two intact sections of a computer software applications course. The two sections were taught by the same computer software applications instructor. The treatments were administered during four weeks of instruction.

A pilot study was conducted during the fall 1998 semester at the same high school with two intact sections of a computer software applications course. The two sections were taught by the same computer software applications instructor. The purpose of the pilot study was to verify the clarity of the instruments, allow the instructor to prepare and refine the delivery of the two treatments, and clarify the classroom administration procedures.

Findings

The population of the study consisted of 12 students enrolled in two intact sections of computer software applications course at a public high school.

To determine if a significant difference existed between the two groups concerning content knowledge, a pre-test was administered before treatments began. An ANOVA procedure revealed that the two groups were not significantly different prior to the administration of the treatments.

To determine if a significant difference developed concerning the content level achieved between students exposed to the guided practice learning activities and those exposed to independent practice learning activities, the following null hypothesis was tested at the .05 level of significance:

> Ho_1: There is no statistically significant difference between student performance relative to content knowledge of electronic databases when guided practice learning activities and independent practice learning activities are used.

This hypothesis was tested using a single factor analysis of variance or ANOVA. The independent variables for the hypothesis were the treatments (two methods: guided practice learning activities--Treatment A and independent practice learning activities--Treatment B). The dependent variable was the student scores on the content based post-test.

Descriptive statistics consisting of means and standard deviations of the score differences between the database content achievement scores for Treatment Groups A and B are presented in Table 1. Table 2 presents the results of the single factor analysis of variance (ANOVA) for the first hypothesis. The analysis resulted in a statistically significant difference in favor of students exposed to guided practice learning activities (Treatment A). The first null hypothesis was rejected.

Table 1

Database Content Achievement: Means and Standard Deviations of the Content Knowledge Post-test Scores

Groups	n	Sum	Mean	Standard Deviation
Treatment A	6	547	91.167	46.167
Treatment B	6	445	74.167	82.967

Table 2

Analysis of Variance for Treatment Groups on Content Achievement

Source of Variation	SS	df	MS	F	p
Between Groups	867.000	1	867.000	13.428	0.004*
Within Groups	645.667	10	64.567		
Total	1512.667	11			

*p<.05

To determine if a significant difference developed concerning the skill level achieved between students exposed to guided practice learning activities and those exposed to independent practice learning activities, the following null hypothesis was tested at the .05 level of significance:

> Ho_2: There is no statistically significant difference between student performance relative to skill level achievement of electronic databases when guided practice learning activities and independent practice learning activities are used.

This hypothesis was tested using a single factor analysis of variance or ANOVA. Descriptive statistics consisting of means and standard deviations of the score differences between the skill level achievement scores for Treatment Groups A and B are presented in Table 3. Table 4 presents the results of the single factor analysis of variance (ANOVA) for the second hypothesis. The analysis resulted in a statistically significant difference in favor of students exposed to independent practice learning activities (Treatment B). The second null hypothesis was rejected.

Table 3

Database Skill Level Achievement: Means and Standard Deviations of the Skill Level Scores

Groups	n	Sum	Mean	Standard Deviation
Treatment A	6	232	38.600	4.240
Treatment B	6	269	44.833	22.567

Table 4

Analysis of Variance for Treatment Groups on Skill Level Achievement

Source of Variation	SS	df	MS	F	p
Between Groups	116.563	1	116.563	8.697	0.015*
Within Groups	134.033	10	13.403		
Total	250.597	11			

*p<.05

Conclusions

Assuming the data collected are reliable, valid, and representative of high school students, the following conclusions are drawn:

1. Guided practice learning activities are more effective than independent practice learning activities when teaching electronic database content knowledge. Mean scores were significantly higher for students exposed to guided practice learning activities.

2. Independent practice learning activities are more effective than guided practice learning activities when teaching electronic database skills. Mean scores were significantly higher for students exposed to independent practice learning activities.

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Brain Hemispheric Consensus and the Quality of Investment Decisions

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Brain Hemispheric Consensus and the Quality of Investment Decisions

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This study began with a double-blind experiment in simulated stock portfolio selection, using real-time market information for the fourth quarter of 1999. The test group was a class of financial management students in an executive MBA program. They made their decisions using a multi-step brain hemispheric consensus-seeking technique. Control group members were undergraduate finance majors in a senior-level capital budgeting course. Participants' portfolios, valued on December 31, 1999, will be tracked over a one-year holding period. They will be monitored for dividends and stock splits, re-valued quarterly, and the outcómes reassessed. Early results of the study mildly support the use of hemispheric consensus in picking portfolio investments.

Introduction to the Problem

A major goal of business educators, as set forth in many a B-school mission statement, is to develop students' decision-making abilities. It is therefore reasonable to think that we should periodically ask ourselves: How well are we meeting this goal? In the areas of security analysis and portfolio management, the evidence is not very encouraging. During the ten-year period ending June 30, 1998, the annual return on an average general-equity mutual fund in the U.S. was 3.32 percentage points less than that of the unmanaged Standard & Poors 500 index (Malkiel, 1999). It is often reported in the press that in a given year, most managers fail to equal or exceed their funds' benchmark averages. Accounts range from 60 to over 90 percent, depending upon the year and the type of fund. Findings like these, which some regard as proof of the indeterminacy of stock prices, underlie the recent growth in popularity of index mutual funds. Similarly poor track records attach themselves to active pension fund management (Malkiel, 1999). Yet most large portfolios remain under active management, and the question of market efficiency (the efficient market hypothesis, or EMH) is far from being settled (e.g., see Haugen, 1995; Peters, 1996; and Lo and MacKinlay, 1999).

This study does not try to lengthen the EMH debate, but looks instead at the human cognitive side of the investment management issue. It explores the possibility that fund managers who underperform the market do so because they make bad decisions, and that their choices can be improved by using a decision model that invokes the principle of brain hemispheric consensus.

A Framework for Making Better Decisions

Psychologist and futurist David Loye suggests that a strategy in which right and left brain halves work together to support each other leads to improved predictions, and therefore better decisions, in a variety of venues (Loye, 1998). Yet in numbers-rich, formula-driven disciplines such as finance, the kinds of decision skills we teach draw heavily on the left brain's "rational" analytical processes, with scant attention paid to the right brain's "intuitive" powers, or to models of hemispheric cooperation such as the one put forth by Loye. The purpose of this study is to test Loye's model in an investment setting.

Loye (1998) describes the essence of his brain interaction model as "consensus-dissensus analysis, or whether both brain halves agree or disagree on the projection of the future upon which (the) prediction will be based" (p. 171). He notes that while some people rely more on left-brain rationality and others on right-brain intuition, all of us ***unwittingly*** draw on both halves to make decisions. The key to making better predictions lies first in understanding which half of the decision maker's brain is dominant, and then in carrying out a hemispheric cooperation plan "consciously, and with clear purpose" (p. 172). This plan proceeds in five steps:

1. Relax in a quiet setting. Loye suggests the use of meditation or self-hypnosis to calm the busy left brain and allow the right brain to do the initial work.

2. Ask your right brain for an intuitive but non-binding decision on the question at hand. (The question should be phrased in "either/or" or "yes/no" terms: Will the market continue to rise over the next six months? Which stock, Dell or Compaq, is the better buy just now among computer makers? Are the dot.com companies overvalued?) This step should be carried out fairly quickly, with a minimum of activated rationality. It is a good idea to write down the decision.

3. Ask your left brain for a non-binding decision in light of a thorough analysis of all the available data. This step will naturally take longer than step 2, and may involve a listing of the issue's "pros" and "cons." Once again, record the decision.

4. Check to see if the decisions based on intuition and rationality support each other.

5. Make a final decision in light of step 4 and your knowledge of your own left- or right-brain orientation. If there is hemispheric consensus on the question, the choice is an unequivocal "yes" or "no." If the two halves conflict in either direction, the proper response is to delay or avoid the decision. If delay is not an option and a decision must be made, then defer to the wisdom of the brain's dominant side.

To determine brain dominance in test subjects, Loye uses the Hemispheric Consensus Prediction [HCP] Profile, which he developed for research at the Institute for Futures Forecasting (Loye, 1980). The HCP Profile questionnaire and its scoring instrument are shown in Appendices A and B, respectively.

Method of Inquiry

The introductory phase of this study, conducted during the fall semester of 1999, was a double-blind experiment involving two groups of business students enrolled in upper-level financial management courses. One group comprised a day section of undergraduate finance majors, the other an off-campus executive MBA class meeting one night per week. While the finance majors might be expected to have had more exposure to formal investment education, the MBA students typically bring much more business experience to the table. Thus an interesting—and, as it turns out, critical—issue is the degree to which these two different types of credentials offset each other.

The study's ongoing agenda is as follows:

- Early in the semester, all participants were given the HCP Profile to determine their brain's hemispheric dominance, if any. Individual results were made known only to those who would make up the experiment's test group.

- Originally, each section was to have been divided into a test group and a control group of approximately equal size. An attempt was to be made within each section to keep the groups' composition comparable in terms of left- and right-brain orientation. At the last minute, I realized that this structure could not have been kept secret, that student curiosity soon would have compromised the double-blind nature of the experiment. To deal with this reality, I decided to let 60 miles of highway do what the best of intentions could not: I made the off-campus MBA section the test group and the on-campus finance majors the control group. (In making this delineation, I hoped of course that the graduate students' business experience would roughly offset the undergraduates' extra finance course exposure. I also knew that in a subsequent semester, I could test this presumption by repeating the experiment with the group assignments reversed.)

- Each participant was given an envelope containing an identical list of 20 stocks that was drawn from among those that make up the Standard & Poors 500 index. This sample constituted their "market." They also received a limited amount of fundamental and technical information about each of the 20 stocks, including their current market capitalizations. And they were told that their sole investment objective was to select from the list a portfolio of stocks that they thought would outperform the market, in terms of total return (i.e., the dividend yield plus the annualized rate of price change), over a three-to-six-month period. "Outperform" was defined to mean *either* higher returns in a rising or "bull" market *or* smaller losses in a "bear" market. This made it necessary for each participant to decide at the outset upon the probable direction of the market.

  Each portfolio had to contain at least five, but no more than 10, different stocks. Thus the question of "concentration vs. diversification" was another one with which each participant—within limits—had to grapple. To rule out "token" positions in any stock, a minimum size purchase was set at $8,000, and from an initial cash balance of $100,000, each student was required to spend at least $80,000. Buying on margin was not allowed. To further assure diversification, the 20 stocks in their mini-universe were drawn from 20 different industries. Online trading was assumed, with commissions set at $20 per transaction.

For those whose analysis led them to postpone any of their stock selections, investment in a money market fund was also allowed. However, once money was taken from this temporary asset and put into stocks, those decisions were frozen for the duration of the experiment. (Due to the students' narrow window of direct involvement in the project, all portfolios were restricted to a buy-and-hold strategy, with no subsequent trading permitted.)

- Test group members received a set of stock selection procedures built around Loye's decision model (without identifying the model as such). Control group members were given a more general set of instructions that were unconnected to Loye's model. Participants in both groups were advised that their individual instructions might differ from those of their classmates, and all signed a pledge to work independently.

- After a month of economic, market, and securities research, portfolio selection began on September 30. All portfolios were in place by October 18. Participants accounted for their stock purchases and subsequent dividends on a Microsoft® Excel® spreadsheet specifically designed for the study. Throughout the rest of the semester, the stocks were monitored for dividends and splits, and the inputs adjusted for the latter when necessary. All cash dividends posted to the spreadsheet are automatically reinvested in money market funds as of their payment dates. A similar spreadsheet kept track of the market capitalization-weighted, unmanaged 20-stock index. The companies that made up the index are shown in Table 1, along with their market caps on September 30, 1999. Included is a frequency distribution of the index stocks among the students' portfolios.

- For the project's initial phase, annualized returns on the portfolios and on the market index were computed for the fourth quarter of 1999. Statistical tests were conducted to see if the average returns of the test and control groups differ significantly from each other as well as from that of the 20-stock index. Multiple regression was also used to check for a relationship between individual returns and HCP scores. These tests are described and their results discussed later.

- Each participant was required to keep a journal detailing significant findings, observations, and thought processes as (s)he moved through the various stages of the experiment.

- As the project continues into the year 2000, the portfolios will be tracked and updated for dividends and stock splits. Total annualized returns will be recomputed for the six-, nine-, and 12-month periods ending respectively on March 31, June 30, and September 30. Extended results will then be compared with those from the shorter time horizons. The experiment's cumulative findings will be reported in future drafts of this paper.

Table 1: 20-Stock Index and Selection Frequencies

Company	Ticker Symbol	Industry	Market Cap.[1] ($millions) Sept. 30, 1999	No. of Portfolios by Group		
				Test	Control	Total
General Electric Co.	GE	Electrical Equipment	388.9	14	10	24
Wal-Mart Stores, Inc.	WMT	Retail-Gen. Mdse.	211.7	12	12	24
Exxon Mobil Corp.	XOM	Oil-International	184.5	5	5	10
Pfizer, Inc.	PFE	HC-Drugs-Major	139.0	14	8	22
America Online, Inc.	AOL	Internet Services	115.3	18	14	32
Home Depot, Inc.	HD	Retail-Bldg. Supply	101.8	17	9	26
Time Warner, Inc.	TWX	Entertainment	78.6	6	8	14
Ford Motor Co.	F	Automobiles	60.8	4	6	10
The Boeing Co.	BA	Aerospace/Defense	40.9	6	1	7
Anheuser-Busch Cos., Inc.	BUD	Beverages-Alcoholic	32.8	10	7	17
Merrill Lynch & Co., Inc.	MER	Investment Broker	24.9	7	4	11
Monsanto Co.	MTC	Chemicals-Diverse	22.6	4	2	6
SunTrust Banks, Inc.	STI	Banks-Major Regional	21.1	5	3	8
Southern Co.	SO	Electric Utility	17.6	1	4	5
The Quaker Oats Co.	OAT	Foods	8.2	1	3	4
Adobe Systems, Inc.	ADBE	Computer Software	6.9	13	10	23
Delta Air Lines, Inc.	DAL	Airlines	6.8	3	6	9
Avon Products, Inc.	AVP	Personal Care	6.5	2	3	5
Winn-Dixie Stores, Inc.	WIN	Retail-Food Chain	4.4	1	0	1
Homestake Mining Co.	HM	Gold Mines	2.4	2	7	9
		TOTALS	1,475.8	145	122	267

[1] Source: Baseline Financial Services

The Test Group

The test group consisted of 22 students enrolled in an executive MBA program at Walt Disney World in Lake Buena Vista, Florida. All of them work for Disney, either directly or as independent contractors. This group was evenly split in terms of gender. Members ranged in age from 22 to 41 years, with an average age of 30.41 ($\sigma = 4.65$). Their HCP Profile scores ran the gamut from 1.1 (extremely left-brain dominant) to 1.9, with an average of 1.46 ($\sigma = .20$).

The relaxation techniques recorded by the test group members in their journals were generally predictable but in some ways surprising. Most participants reported using more than one technique. Fully half of the group listed music. Two of these specified classical music, one said soft jazz, another wrote "calming." (The author of this last adjective, however, went on to provide a rather strange set of examples: Enya, Jimmy Buffett, and Pink Floyd!) One respondent specifically opted for *no* music, saying she needed absolute quiet in order to concentrate. Other proffered aural aids to relaxation were a CD of ocean sounds and a small gurgling fountain.

Another recurring relaxation theme was exercise, with nine citations. Eight of these specified a particular activity: a walk, a long walk (2), running (2), swimming, a long bike ride, and a long workout.

Three group members listed hot showers, baths, and bubble baths (one each). One prescribed hot tea, another herbal tea, still another a nice dinner and a margarita. Three opted for a dark room, while one specified a well-lit room. One respondent said her most effective relaxation trick was playing Tetris on her Game Boy™.

The Control Group

There were 17 students in the control group. All are undergraduate finance majors who were taking FIN 410 – Financial Management I. (There is quite a bit of similarity between this course and the MBA finance course taken by the test group. Both require the junior-level "Business Finance" course as a prerequisite. They are presented at about the same level of difficulty, though the undergraduate course covers less material in somewhat greater depth. Most importantly, both courses begin with a unit on risk and return, modern portfolio theory, and stock and bond valuation.)

Ranging in age from 20 to 34 years, and with an average age of 22.24, the control group was some 27 percent younger than the test group. The dispersion of ages around this mean, however, was not markedly different from that of the MBA students ($\sigma = 4.08$). The range of HCP Profile scores was nearly as broad (1.1 to 1.7), and the distribution looks remarkably comparable ($\mu = 1.40$, $\sigma = .22$). Unlike the test group, which was 50 percent female, only four of the 17 members of the control group were women.

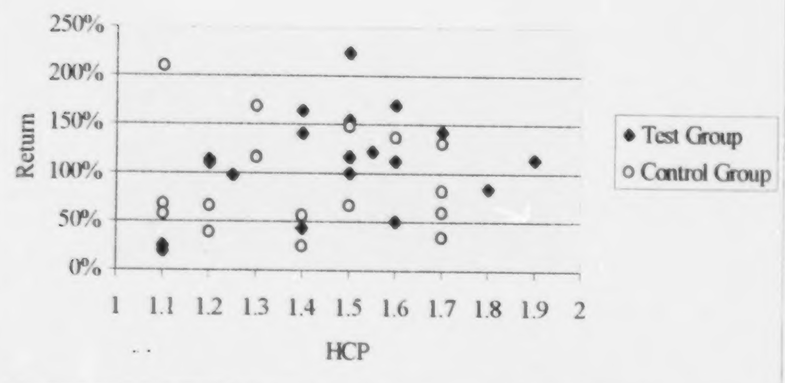
Market Data Sources

Some of the participants' portfolio research information came from the usual kinds of print media sources associated with well-stocked libraries (e.g. *The Wall Street Journal*, Standard & Poors publications, etc.). But arguably most of it came, in real time, from the daylong coverage of the markets on cable television channel CNBC and the Internet web sites of online brokerage houses and investment support services. (A number of students in both groups were already online investors at the outset of the experiment.)

Early Results of the Study

The test group's annualized portfolio returns for the fourth quarter of 1999 ranged from a high of 223.6 percent to a low of 19.8 percent. Even the lowest of these results would seem great by long-run historical standards. This study, however, had the good luck of starting in an amazingly strong stock market. The average annualized return for the test group was 115.8 percent ($\sigma = 48.8$ percent). The range of returns for the control group was similar (from 209.9 percent down to 25.0 percent), as was the standard deviation (50.7 percent). The control group's average return, however, was just 93.2 percent. (*Just 93.2 percent?* How strange does *that* sound?) Individual returns for both groups are plotted against HCP Profile scores in Exhibit 1.

Exhibit 1: Portfolio Return v. HCP Score



An F-test was first used to determine that the two rate-of-return sample variances are equal to a fair degree of certainty (F = 1.09, P = .41). Then a t-test was performed to see if the test group's average return exceeds that of the control group by a significant margin, the null hypothesis being that it does not. The resulting t-statistic of 1.37 gives a one-tail P-value of .089. What these numbers suggest for the null hypothesis depends on whether the reader is a strict "five percenter" or a pragmatist. A P-value of just under .09 doesn't cry out for rejection of H_0. Neither, however, does it lend the null hypothesis much support. Something appears to be going on in the data. For the initial valuation period, Loye's decision technique seems to have some merit.

That's the good news. The bad news is that while the test group managed to outperform the control group over a three-month time horizon, neither group beat the unmanaged 20-stock index, which enjoyed an eye-popping annualized return of over 130 percent. This performance was heavily influenced by large-cap winners General Electric, Wal-Mart, America Online, and Home Depot, which accounted for more than 55 percent of the index's beginning market value. Many of the students' portfolios contain these stocks as well (see Table 1), which tends to make their first-quarter results relatively, if not always absolutely striking.

While neither group beat the market on average, a higher proportion of the test group did so, and by a wider margin than the control group. Eight of the test group's 22 students (36.4 percent) enjoyed an average return of 164.63 percent, meaning they outperformed the index by more than 34 percentage points. Among the control group, five out of 17 (29.4 percent) averaged a 159.11 percent return, beating the index by about 29 percentage points. Although these proportion and performance differences between groups both run in favor of the test group, neither turns out to be statistically significant. A Chi-square test fails to show that the proportion of test-group members who beat the index was significantly greater than the proportion of control-group members who did so ($\chi^2 = .65$, P = .42). And a t-test establishes the same conclusion with regard to higher-than-market-index portfolio returns (t = .93, P = .37). Viewed alongside the earlier finding of higher mean returns for the test group, these results imply that most of that group's strong overall performance is centered among those who did *not* beat the index.

Using Risk-Adjusted Returns

When the study participants were given their charge to try to outperform the 20-stock market index, no mention was made as to whether their results would be viewed in a risk-adjusted light. So there is no reason to think that they set out to maximize risk-adjusted excess returns. Out of curiosity, however, I repeated the t-test on the group averages for this variable. Risk-adjusted excess returns were computed in four steps: (1) Weighted average portfolio betas were determined from individual betas (stocks v. the S&P 500) obtained from Baseline Financial Services. (2) Portfolio betas were next divided by the 20-stock index's average beta of 1.15, to produce "relative" betas (with that of the index becoming 1.00). (3) Using the Capital Asset Pricing Model's security market line [SML] equation, relative betas were combined with the index's realized return of 130.31 percent and the U. S. Treasury long bond rate of 6.07 percent (as of September 30, 1999), to determine each portfolio's required rate of return. The SML equation is:

$$k_j = k_{RF} + (k_M - k_{RF})\beta_j \,,$$

where k_j is a stock or portfolio's required return, k_{RF} the risk-free (Treasury bond) rate, k_M the return on the market portfolio, and β_j the stock or portfolio's beta. (4) Finally, required rates were subtracted from realized rates to produce risk-adjusted excess rates of return.

Since only one-third of all portfolios beat the index in this first three-month period, the average excess return for each group was negative. While the figure for the test group was *less* negative than that of the control group, the new t-statistic of .94 was also weaker than the original (P = .18). But since there was no *a priori* reason to expect stronger results in the risk-adjusted case, these findings are not especially disturbing.

Multiple-Regression Results

In an experiment involving several California institutions of higher education, Loye studied the forecasting ability of 135 test subjects in the areas of U. S. politics, economics, and foreign affairs (Ferguson, 19XX). He found that people with centered HCP Profiles consistently made better outcome predictions than those with strong left- or right-brain orientations. Since financial markets are so clearly driven by economic forces, it seemed both natural and worthwhile in the present study to subject this idea to further testing, using multiple regression.

The test model says that a portfolio's rate of return is essentially a function of two variables, the portfolio's weighted average beta and the degree to which the decision maker's HCP Profile score deviates from the average of 1.5. The expected sign on the coefficient of the beta variable is positive, while that of the HCP deviation is negative.

(This latter variable is computed as an absolute value: $|1.5 - \text{HCP score}|$, so it can account for deviations in either direction.)

The test can be conducted in either of two ways. One is to estimate the equation

$$k_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon_i$$

for each group, where k_i is the expected return on portfolio i, independent variables X_1 and X_2 are portfolio beta and HCP deviation, respectively, and ε_i is a random error term. The two equations' slope coefficients would then be tested for significant inter-group differences.

Another approach is to use the combined samples to estimate a single equation,

$$k_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon_i,$$

where k_i, X_1, X_2 and ε_i are as defined above. X_3 is a dummy variable representing group membership (control group = 0, test group = 1). The expected sign of its coefficient is positive. X_4, an interaction term that equals the product of X_2 and X_3, isolates any difference that may exist in the impact of variable X_2 (HCP deviation) between groups. Its coefficient should carry a negative sign.

Qualitatively, the two regression alternatives yield similar results. Although both were used in this study, in the interest of brevity only the latter test is reported here. The equation estimated from the combined sample is

$$\hat{k} = -1.00 + 1.54X_1 + .81X_2 + .40X_3 - 1.70X_4$$

t-statistics:	– 1.74	3.53	.94	1.62	– 1.60
P-values:	.09	.0006	.18	.06	.06

$R^2 = .40$

Since each of the four explanatory variables has an expected sign going into the test, one-tail P-values are reported for them. Not surprisingly, beta (X_1) turns out to be the strongest, with a positive sign, as expected, and an extremely low P-value. HCP deviation (X_2), for the combined sample, is of the wrong sign but insignificant. Group membership (X_3) has the expected positive sign and marginal significance. And the interaction variable (X_4), also of slight significance, is negative in sign. These last two results, taken together, suggest that any influence HCP score has on portfolio return is localized within the test group. (A negative X_4 is a reasonable presumption, even if the sign of X_2 were negative, since the test group was instructed in and focused on seeking hemispheric consensus. Members of that group with very high or low HCP scores were aware of their particular numbers and the need to work their brains' weaker sides. Control group members operated without this knowledge.) At .40, the regression's coefficient of determination (R^2) is good in view of small sample sizes and the cross-sectional nature of the data. But much of it is due to the strong impact of beta on rate of return. On balance, the regression exercise furnishes only limited support for Loye's earlier tests.

Assessment of Overall Results

Earlier I wrote that this study " . . . explores the possibility that fund managers who *underperform the market* do so because they make bad decisions, and that their *choices can be improved* by using a decision model that invokes the principle of brain hemispheric consensus" (italics added). Overall the experiment seems to support the second part of this statement but not the first. That is, hemispheric consensus may lead to better stock selection, but not necessarily to the extent of outperforming an unmanaged index. Whether a longer holding period alters this conclusion will be examined in the months ahead.

It could also be the case that the study's lukewarm results were hampered by faulty methodology. Or they may actually have been improved by it—who knows? The point is that planning and conducting the experiment was as much a learning experience for me as participating in it was for my students. A number of unforeseen things happened—both within and beyond my control—that have caused me to wish I could start the project all over. The most problematic of these little reality checks are discussed in the next section.

Suggestions for Future Research

When I made the decision to separate the test and control groups by geography, I had reason to think that within a short period of time I would reverse the groups and replicate the experiment. Those intentions are now in doubt, for two reasons:

First, the MBA finance course, it turns out, will not be taught again at Disney World until the summer of 2001. And during that summer term, the senior undergraduate course will not be offered. I will teach an MBA class on campus this fall, but its audience will differ from those at Disney in that a large proportion will have had no significant business experience. This means that were I to rerun the experiment next semester, I would not be able to test the assumption of substitutability between business experience and extra finance coursework. To compound the problem, it is almost certain that some of the on-campus MBA students will be recent Stetson graduates with strong ties to the undergraduate population. This guarantees that the experiment, once started, could not remain double-blind for long.

Second, if I repeated the experiment, I would not conduct it exactly as before. Instead, with the aid of 20-20 hindsight, I'd make several important changes:

- I would delay starting it until midway through the semester, so the participants would have at the outset a better grasp of valuation and diversification concepts.

- I would try to simplify the test group procedures to ensure that right-brain intuitive choices made late in the experiment do not become tainted by earlier left-brain data processing. I don't know at the moment how I would accomplish this. But I do know it is a problem. One of the MBA students remarked in her journal that as the experiment wore on, she found it harder to relax and block out the noise clutter from earlier analyses. What makes this observation the more interesting is that her portfolio return was the lowest in both classes, as was her HCP profile score of 1.1. (Several others in both groups shared that minimal HCP number and their portfolio results were mixed. In fact, one of them had the *highest* return in the control group. So I don't mean to overstate this problem. Still, I think the procedures can and should be improved.)

- I would make the instructions much clearer. This doesn't mean, however, that I would rewrite them (except as revised procedures warranted), since they were a model of clarity in the first place. Rather it means that I would come very close to *reading them aloud* to the participants. My biggest surprise in conducting the experiment was in the realization that many advanced undergraduate and MBA graduate students either cannot or will not read and follow a set of instructions without a lot of coaching from the sideline. Early in the semester, when most of the participants in both sections began missing deadlines and turning in totally inadequate journals, I had to quickly revise the project's incentive structure. Originally all carrot, it became mostly stick, with "points off" penalties for various kinds of infractions. Understandably, this took a lot of the fun out of the experiment for everyone. In darker moments, I even found myself thinking that I would never again use students as research test participants! (In the light of day, of course, I know that this isn't an option. It does no good to use perfect, highly motivated test participants to find out hemispheric consensus works, unless we can teach the technique to students.)

Educational Importance of the Study

If psychologist Loye is correct, the success of a few better-than-average money managers could stem as much from their making better-than-average use of their brains' forecasting abilities as from the existence *per se* of any market inefficiencies. Even in an EMH world, some stocks will outperform others and decision timing will always be a critical issue. As business and finance educators who care about improving our students' decision-making skills, we owe it to them to explore fully the possible benefits of brain hemispheric consensus. This study is one small step in that direction.

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Appendix A

HCP PROFILE

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NAME______________________________ DATE__________________

This is an experimental test of thinking styles. It will take about three minutes of your time. Please circle the ONE number for the answer that best fits you.

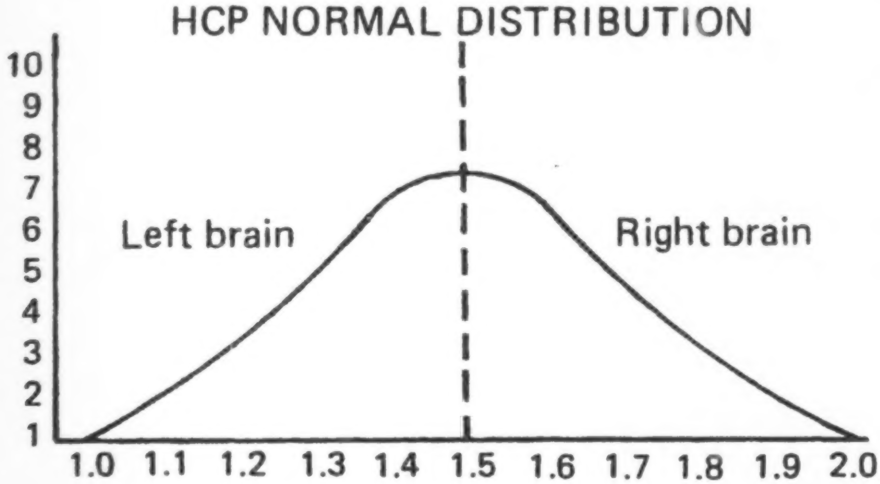
1. In grade and high school, were you best in: *math,* 1. Or *art,* 2.
2. In grade and high school, were you best in: *languages,* 1. Or *crafts,* 2.
3. Do you tend to get at solutions to problems by: *analyzing them step by step,* 1. Or by *getting a "feel" for the solution all of a sudden, as a whole,* 2.
4. In regard to your work or personal life, do you follow hunches only if they are supported by logic? *Yes,* 1. *No,* 2.
5. In regard to your work or personal life, do you follow hunches if they may not seem logical but have the right "feel"? *No,* 1. *Yes,* 2.
6. Have you ever known before being told if some member of your immediate family or a close friend is in serious trouble or ill? *No,* 1. *Yes,* 2.
7. In drawing pictures, plans, or maps, how would you rate your sense of distances, directions, and how things relate to one another? *Pretty good,* 2. *Not so good,* 1.
8. When you work on projects, do you *most* want them to be: *well planned,* 1. Or *designed to contribute something new,* 2.
9. In dealing with problems, which gives you the most satisfaction: *solving it by thinking it through,* 1. Or *tying fascinating ideas together,* 2.
10. Do you experience hunches about future events that prove to be correct? *Yes,* 2. *No,* 1.

Appendix B

Name________________________________

Class____________________

Your HCP Profile score is plotted on the distribution below:



Source: Loye, David. *The Sphinx and the Rainbow*. New York: toExcel, 1998.

An HCP Profile score in the range 1.0 to 1.4 suggests a person is highly likely to be left-brain dominant. Scores between 1.6 and 2.0 indicate a strong likelihood of right-brain dominance. And a score of 1.5 depicts someone who is probably fairly evenly balanced in terms of brain hemispheric use.

Functional differences between the two halves of the brain are quite complex. But for simplicity, it is useful to think of the left hemisphere as the logical, rational half and the right hemisphere as the more intuitive side. The left brain processes information in a straightforward, linear fashion, while the right brain handles inputs as gestalts or patterned wholes. Another way of putting this is that the right brain sees the forest and the left brain the individual trees.

Strong differences in hemispheric orientation can affect such things as our career choices, interests, and hobbies. However, neither type of brain dominance is inherently "better" or "worse" than the other. In fact, the two hemispheres regularly communicate with each other through a connecting area of the brain called the corpus collosum. In this way, they work together in a kind of partnership that in effect elevates two different types of consciousness into a single higher consciousness (Loye, 1998).

Incorporating the 4MAT Learning Style Model in Marketing Education

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Roundtable presentation for the Business Education and Information Systems Research SIG—at the annual meeting of American Educational Research Association April 24 – 28, 2000 in New Orleans, LA

Abstract

Bernice McCarthy's 4MAT Learning Style Model is an eight-step cycle of instruction incorporating the four types of learning styles and brain dominance. Because each student has his/her own individual learning style, teachers need to use a variety of teaching methods to incorporate all learning styles in order for every student to learn successfully. The Marketing Education curriculum, on-the-job training, and DECA experiences enable each marketing student to be successful at learning. McCarthy's 4MAT Model is practiced throughout marketing education. The paper provides an overview of the 4MAT Model, the Marketing Education curriculum and how the two work together to produce the best possible environment from which to learn. Results of interviews with marketing students from each learning style.

Incorporating the 4MAT Learning Style Model in Marketing Education

Bernice McCarthy's 4MAT Learning Style Model is an eight-step cycle of instruction incorporating the four types of learning styles and brain dominance. Because each student has his/her own individual learning style, teachers need to use a variety of teaching methods to incorporate all learning styles in order for every student to learn successfully. The Marketing Education curriculum, on-the-job training, and DECA experiences enable each marketing student to be successful at learning.

When the two dimensions of perceiving and processing are connected, a four-quadrant model is formed. The results then form the four learning styles: type one – imaginative learner, type two – analytic learner, type three – common sense learner, type four – dynamic learner.

The type one learner is highly imaginative and favors feeling and reflecting. Imaginative learners believe in their own experiences, learn by listening and are at home with their feelings. The imaginative learner is people-oriented and prefers to learn by talking about experiences. The type one learner listens, watches quietly, and then responds. This learner is highly involved, committed, and thoughtful; therefore he/she sees all sides and may sometimes have a difficult time making decisions. The type one learner's goal is to be involved in important issues and to bring harmony (Morris, 1997). The imaginative learner's favorite question is "Why".

The type two learners invent theories by combining their own observations and what is already known. Details, being thorough, sequential thinking, and forming reality are characteristics of these learners. The type two learners learn by thinking through ideas and find ideas interesting. Analytical learners are uncomfortable with subjective judgements due to the fact that they need to know what experts think. The analytical learner likes to reflect and think. Unlike the type one learner, type two learners are knowledge-oriented; they love to analyze, classify, and organize ideas. This learner believes in the ability to learn and his/her goal is to have intellectual recognition (Morris, 1997). School is wonderful to the type two learners. They love to read, learn through lectures, and work independently. An analytical learner's favorite question is "What".

The type three learner can put together theory and practice by testing theories and applying common sense. Because common sense learners need to know how things work and are skills-oriented students, they tinker with things and can figure out problems on their own. This learner does not like to be given the answer, wants to experiment, find results and work alone on projects. The type three learner is a thinking and doing person. A common sense learner's goal is to align his/her own view of the present with future security (Morris, 1997). School can be difficult to a type three learner because it is too much reading, too verbal, and too controlled. The favorite question of this learner is "How does it work".

Type four learners learn by trial and error and believe in self-discovery. Dynamic learners love change, need flexibility, and are excited about new things. Talking and looking for creative solutions are other characteristics. These learners are risk takers and can talk to anyone; therefore their interpersonal skills are good. Rigid routines are not desired nor are methodical tasks and absolutes. Type four learners prefer interviewing instead of reading, exploring instead of hearing how others see things and their goal is to bring action to ideas (Morris, 1997). School for the dynamic learner is not exciting enough. These learners like the social part of school, but memorizing facts is absolutely boring and has nothing to do with their life. The best part of school for a type four learner is extracurricular activities. The favorite question of a dynamic learner is What if".

Bernice McCarthy's 4MAT model takes into consideration the two halves of the brain, right and left hemispheres. Each hemisphere processes information differently. According to research, the most significant differences between the left and right hemispheres is how the two process information differently. "In processing information and stimuli, the left brain does a lineal type of processing, a sequential type, while the right brain uses a global process in which data is perceived, absorbed, and processed even while it is in the process of changing" (McCarthy, 1987, p.70).

McCarthy's complete model of the 4MAT system shows a relationship between learning styles and brain dominance. Each of the four learning styles has right-mode, left-mode, or whole-brained learners. As a teaching model, the 4MAT model begins at the first quadrant (type one) and moves from one to the next in a circular cycle. It is important to reach each quadrant and brain hemisphere in order for the student to be comfortable part of the time while being encouraged to develop other learning abilities. The goal of using the 4MAT model in teaching is for all students to excel in school.

The student relates to a concrete experience and then reflects in quadrant one. The teacher needs to create a desire for the student to want to learn. Relating the information to be learned with the student's prior experience or knowledge will engage the learner and encourage the right-mode type one learner (McCarthy & Germain, 1997). The second step in quadrant one is to take the previous discussion on prior experience and reflect on it. The third step, quadrant two, is to encourage learners to symbolize the information and make a picture. This is a right-mode activity. In the fourth step in quadrant two, the left-mode takes control by breaking the concept down into parts and getting organized in a sequential manner. Quadrant two is practiced the majority of the time in most schools. Quadrant three students apply what has been taught and need to "try it". This left-mode approach is the fifth step. Teachers provide hands-on activities or practice and are looking for correct answers. Step six is right-mode in quadrant three where students are encouraged to step out on their own and add their own personality or ideas to the concept. The student teaches the concept to themselves, to others, and are doing something with what they have learned. They are applying what they have learned in a personal, meaningful way (McCarthy, 1987). The left-mode takes charge when the student is analyzing the planning stage. In quadrant four, the student teaches the concept to themselves, to others, and are doing something with what they have learned. The left-mode, step seven, takes charge when the student is analyzing the planning stage. The right-mode, quadrant four, completes the "full circle" of the 4MAT model. The students do it by themselves and share with others. Presentations are given, reports are submitted and closure takes place.

The Marketing Education program consists of three component areas: classroom instruction, on-the-job training, and DECA. All three components work together to reach each of the four learning styles mentioned in the 4MAT model. The full cycle of a "lesson" in marketing education incorporates all learning styles. The marketing education classroom curriculum includes the following: human relations, basic retail math, marketing, selling, economics, promotion, and marketing careers. Curriculum for the Business Management Ownership course, second year marketing students, includes the following: entrepreneurship, finance, management, economics, promotion, and marketing research. On-the-Job Training (OJT) gives the student an opportunity to work in a marketing related job and receive school credit for working at least 10 hours a week.

DECA, An Association of Marketing Students, is an organization for all students enrolled in the marketing program. Each student in the program is a member. DECA has four goals for its members: to develop leadership skills, promote civic consciousness, provide social intelligence, and create vocational understanding (Oklahoma Department of Vocational and Technical Education Curriculum and Instructional Materials Center, 1994). In the DECA organization, one will find that DECA brings together all learning styles. Activities throughout the year give each student the chance to shine by using his/her learning ability. Combining the three aspects of the marketing curriculum (classroom, OJT, and DECA) creates a chance for every student to learn in their individual learning style. The curriculum provides a variety of teaching methods and gives the teacher the leisure to add creativity to appeal to individual students.

An example of how the marketing curriculum teaches to all learning styles will be demonstrated in the following example. An example of how the marketing curriculum teaches to all learning styles will be demonstrated in the following example. This example about selling is from the Marketing Education curriculum. The first step is to get the students attention so they will want to learn. The teacher will listen for examples of selling and promote discussion about their own experiences or knowledge. This small step will grab the type one-right mode learner. To be able to switch over to the type one-left mode learner, the teacher will then write the key concepts and examples that were just discussed on the chalkboard. This step allows students to reflect, analyze, and summarize.

The teacher can use a simple product such as a pencil to explain the selling process so the students can symbolize, create a picture in their mind, and see the overall concept of selling. This is how to connect the type two-right mode learner to the concept being taught. The type two-left mode student will tune in when the teacher begins to give the particulars of selling. Giving the steps of the selling process and breaking each step down is given through lecture and reading the text.

The teacher will provide worksheets for practice or assign a selling project to get hands-on experience. The students are to find the correct answers and master the selling concept. This is step five, the type three-left mode learner. When moving to the right-mode, step six, the teacher will allow students to use their own product or ideas and apply selling to it. The type four learners (steps seven and eight) love it when the teacher allows them to teach themselves and others. Students are to design a selling presentation and sell whatever product they wish. They work together to create a plan (left-mode learner) and are applying it in a personal meaningful way (right-mode learner).

Supporting research shows that McCarthy's 4MAT model is versatile and applicable to a variety of situations. When used properly and consistently students can learn and be more successful in school.

Method

Participants completed the *Learning Style Measure,* which ranks the responses in preference from 4 to 1, 4 being the most like the student, and the *Hemispheric Mode Indicator,* which asks the students to choose between 2 choices to determine if they are right or left brained. Participants from each learning style were then questioned using the designed questionnaire, which was open ended and had 17 questions.

Participants

With parent permission granted, 6 students from the Edmond North High School (Edmond, Oklahoma) marketing education class completed the *Learning Style Measure* and the *Hemispheric Mode Indicator*. The students are juniors or seniors in high school, with 1 male and 5 females. All the participants eagerly completed the paperwork, excited to know what learning type they were.

Interviews and Results

Individual interviews were given to each student using the Marketing Education Questionnaire. The Type 1 learner (imaginative) said that the marketing class was easier than other typical classes due to the fact that she found a connection between school and real life situations. A type one learner needs to connect to real life; therefore, the marketing class connects this learner and creates a reason for learning. This student verified the characteristic of a type one learner by admitting to disliking oral presentations but liking discussions. DECA also allows this learner to add personal meaning to school.

The Type 2 student (analytical learner) definitely fits in with typical school teaching methods, just as the research suggests. This participant learns best by lectures, notes, listening and working individually. He absolutely dislikes group work because he is not satisfied if the work is not done to his specifications, but at the same time does not want to do other students work. This student is more interested in ideas, computers and knowledge than people. Another characteristic that is mentioned is being able to form reality about the subject being taught. "Marketing is adding to what you already know except someone is verifying it and now the idea makes sense," the student said. Wanting to know what the experts think is another characteristic of this type of learner. Classroom work is comfortable for this student and the social activities in DECA are helping him open up and learn to become more sociable, which is not easy for him.

The Type 3 (common sense) participant stated that guest speakers and working on projects where you can apply common sense is the favorite type of teaching method for her. This student learns by demonstrations and field trips. The participant explained that she applies what she has learned in the classroom to her job and finds that the learned knowledge increases her sales ability. The student has tested the theories learned in the classroom and through DECA at work and enjoys seeing first hand that the theories really do work! "The marketing class, OJT and DECA teach me real life situations that can be applied every day. That is why I find marketing interesting and fun," the type three student stated.

Projects and working in a group situation is a favorite of the Type 4 learner (dynamic) interviewed. Talking and looking for creative solutions is a characteristic of this type of learner;

this is why the student interviewed loves working with DECA activities. Taking notes is not a favorite for this student since memorizing facts is boring. This student shows her leadership through DECA; she currently is an officer and is very active. This student also applies the marketing curriculum to the marketing jobs she currently holds.

One participant's scores were equal in all four learning styles. This is a whole-brained student according to McCarthy's definition, which means that she can learn and adapt to all teaching methods. When interviewing this student, she discussed the teaching methods that were appealing to her. The teaching methods included projects, group work, activities, discussions and worksheets. Note taking is the least favorite method. DECA and OJT are great for this participant due to the fact that she finds learning in real life situations an advantage to her future. Because this student can learn in a variety of ways, school is not a difficult task.

There are times when students can learn within two different learning styles. One participant interviewed is a Type 4 and a Type 1 learner. As a Type 4 learner, she enjoys organizing projects, DECA activities, and applying knowledge to the real world. At the same time, because this student can apply the marketing curriculum to the real world and can see why the information needs to be learned, she fits into the Type 1 learner category as well. This learner does like group work but does not enjoy objective tests.

The results of the interviews show that the marketing class curriculum is strongly favored over the typical classroom setting. Every participant discussed how DECA and OJT helped him/her in not only social skills but also in business skills. The Type 2 learner (analytical) stated that DECA enables him to open up and become more social. The learner that was a Type 4 (dynamic) and Type 1 learner (imaginative) added that DECA make her realize that everything outside of the classroom is business, and the marketing curriculum provided the information in order to succeed in the business world. Every participant responded in favor of more classes in school being taught the same way as the Marketing Education class. Though the students have adapted to other learning styles, they mentioned that they had no choice because most teachers did not teach to all students. The characteristics of the marketing class that makes it more interesting, according to these participants, is the versatility of the learned information and variety of teaching methods.

Conclusion

McCarthy's 4MAT model is a great tool for teachers to use in order to increase the chance of success for every student. Students have a better chance of performing well in school when there is a variety of teaching methods being used. The Marketing Education curriculum incorporates all learning styles within its three component areas: classroom instruction, DECA, and on-the-job training (OJT). The interviews conducted with the students in the Marketing Education class confirmed that each learning style is being reached within the three component areas. The different learning styles were incorporated due to the fact that the curriculum can show the student why they need to learn it, tell what the facts are in a step-by-step manner, apply common sense to the facts, and then apply it through projects, DECA or OJT. The results of the interviews also showed that the participants strongly agreed when asked if they wished more classes were taught in the same way as the Marketing Education class.

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